

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

-----X  
NATIONAL LIGHTING COMPANY, INC. a New :  
Jersey Corporation, :  
:

Plaintiff, :  
:

v. :  
:

Case No. 08 CV 03150

BRIDGE METAL INDUSTRIES, LLC, a New York :  
Limited Liability Company; JOSEPH MESSA, an :  
individual; GALAXY SWITCHGEAR INDUSTRIES, :  
LLC, a New York Limited Liability Company; :  
BLAISE FREDELLA, an individual; ISAK :  
LEMBERG, an individual; BORIS BREGMAN, an :  
individual; PICASSO LIGHTING INDUSTRIES :  
LLC, a New York Limited Liability Company; :  
INDEPENDENT LIGHTING, LLC, a New York :  
Limited Liability Company; GREEN LIGHT :  
SOLUTIONS, LLC; and MITCHELL :  
BLOOMBERG, an individual, :  
:

**AFFIDAVIT IN SUPPORT  
OF MOTION TO DISMISS  
THE COMPLAINT**

Defendants. :  
-----X

STATE OF NEW YORK )  
: ss. :  
COUNTY OF NEW YORK )

**DAVID B. ROSENBERG**, being duly sworn, deposes and says:

1. I am a member of Todd & Levi, LLP, counsel for Defendants Galaxy Switchgear Industries, LLC, Isak Lamberg (sued herein as Isak Lemberg), Boris Bregman, Picasso Lighting Industries LLC, Green Light Solutions, LLC, formerly known as Independent Lighting LLC and Mitchell Bloomberg (collectively, the "Moving Defendants"). I am fully familiar with the matters hereinafter set forth and I respectfully submit this affidavit in support of the Moving

Defendants' Motion to Dismiss the Amended Complaint (the "Motion").

**The Procedural Background**

2. On or about May 9, 2008, we wrote to the Court to request a pre-motion conference in connection with the Moving Defendants' anticipated motion to dismiss the Complaint in this action.

3. On or about May 22, 2008, the Court conducted a telephonic conference, at which all parties participated through their respective counsel, to address the Moving Defendants' application for a pre-motion conference.

4. As a result of the pre-motion conference, among other things, the Court provided Plaintiff with an opportunity to file an Amended Complaint prior to Moving Defendants making any motion to dismiss pursuant to Fed.R.Civ.P. 12(b)(6).

5. The Court also directed that Plaintiff would not be permitted to further amend the Complaint after the adjudication of any motion to dismiss the Amended Complaint pursuant to Fed.R.Civ.P. 12(b)(6).

6. On or about June 6, 2008, Plaintiff served the First Amended Complaint, a true and complete copy of which is annexed hereto as Exhibit "A."


**Plaintiff Is Not Authorized to Conduct Business in New York**

7. I caused a search to be conducted at the office of the New York Secretary of State to determine if Plaintiff National Lighting Company, Inc. was authorized to conduct business in the State of New York. The search of the records at the office of the Secretary of State revealed that there is no record of Plaintiff, the New Jersey corporation "National Lighting Company, Inc.", being authorized to conduct business in the State of New York.

8. For the foregoing reasons and those set forth in the accompanying Memorandum of Law in Support of Motion to Dismiss, I respectfully request that the Motion be granted in its entirety.

  
DAVID B. ROSENBERG

Sworn to before me this  
18<sup>th</sup> day of July, 2008

  
NOTARY PUBLIC

**JILL LEVI**  
Notary Public, State of New York  
No. 02LE4793441  
Qualified in Queens County  
Commission Expires August 31, 2009

Plaintiff, NATIONAL LIGHTING COMPANY, INC. ("National"), through its attorneys, SHUSTAK & PARTNERS, P.C., complaining of Defendants BRIDGE METAL INDUSTRIES, LLC ("Bridge"), JOSEPH MESSA ("Messa"), GALAXY



SWITCHGEAR INDUSTRIES, LLC ("Galaxy"), BLAISE FREDELLA ("Fredella"), ISAK LEMBERG, ("Lemberg"), BORIS BREGMAN ("Bregman"); PICASSO LIGHTING INDUSTRIES, LLC ("Picasso"); INDEPENDENT LIGHTING, LLC ("Independent"); GREEN LIGHT SOLUTIONS, LLC ("Green Light"); and MITCHELL BLOOMBERG ("Bloomberg") (referred to collectively herein as "Defendants"), as and for its Complaint alleges, upon information and belief except as otherwise particularly stated, as follows:

### **JURISDICTION AND VENUE**

1. This Court has jurisdiction over this action pursuant to 15 U.S.C. § 1121, 28 U.S.C. § 1331, 28 U.S.C. § 1338, and 28 U.S.C. § 1367. The Court also has jurisdiction over this action by virtue of diversity of citizenship, 28 U.S.C. §§ 1332, in that Plaintiff is a citizen of one state and all Defendants are citizens of a different state, and the amount in controversy exceeds \$75,000, exclusive of interest and costs.

2. The state claims in this action are brought pursuant to this Court's ancillary and pendent jurisdiction over such claims.

3. Venue is proper in this Court pursuant to 28 U.S.C. § 1391(b), as Defendants' conduct occurred and continues to occur in this judicial district.

### **THE PARTIES**

4. Plaintiff National is and was at all times relevant to this action a corporation organized under the laws of the state of New Jersey, with its principal place of business at 522 Cortlandt Street, Belleville, New Jersey 07109.

5. Defendant Galaxy is and was at all times relevant to this action a Limited Liability Company doing business in New York and organized under the laws of the state

of New York, with its principal place of business at 717 South Third Avenue, Mount Vernon, New York 10550.

6. Defendant Bridge is and was at all times relevant to this action a Limited Liability Company doing business in New York and organized under the laws of the state of New York, with its principal place of business at 717 South Third Avenue, Mount Vernon, New York 10550.

7. Defendant Messa is and was at all times relevant to this action an individual residing in the state of New York, and the President of Galaxy and Bridge.

8. Defendant Fredella is and was at all times relevant to this action an individual residing in the state of New York, and an officer, director, and employee of Galaxy and Bridge.

9. Defendant Lemberg is and was at all times relevant to this action an individual residing in the state of New York, and an officer, director, and employee of Galaxy and Bridge.

10. Defendant Bregman is and was at all times relevant to this action an individual residing in the state of New York, and an officer, director, and employee of Galaxy and Bridge.

11. Defendant Picasso is and was at all times relevant to this action a Limited Liability Company doing business in New York and organized under the laws of the state of New York, with its principal place of business at 717 South Third Avenue, Mount Vernon, New York 10550.

12. Defendant Independent is and was at all times relevant to this action a Limited Liability Company doing business in New York and organized under the laws of

the state of New York, with its principal place of business at 92 Hazelwood Drive, Jericho, New York 11753.

13. Defendant Green Light is and was at all times relevant to this action a Limited Liability Company doing business in New York and organized under the laws of the state of New York, with its principal place of business at 92 Hazelwood Drive, Jericho, New York 11753.

14. Defendant Bloomberg is and was at all times relevant to this action an individual residing in the state of New York, and an officer, director, and employee of Independent, and Green Light. Bloomberg is the former president of The Lighting Group of New York City. The Lighting Group of New York City was owned and operated by Genlyte Lightolier Thomas Group, a New York Limited Liability Company whose public records reflect hundreds of millions of dollars in annual revenues and which was, upon information and belief, acquired in 2008 by Royal Phillips Electronics, N.V., manufacturer of the well-known "Phillips" brand electronics.

15. Evidence which will be gathered during discovery and presented at trial will show that each Defendant was at all times relevant hereto a controlling person, agent, and/or alter ego of each other Defendant, and in doing the acts as herein alleged, was acting within the course and scope of his or its authority as such with the expressed and implied permission, instruction, knowledge, consent, and ratification of each other Defendant. Each Defendant did influence and govern each other Defendant with such a degree of unity of interest and ownership so that the individuality, or separateness, of each Defendant have ceased to exist.

16. National alleges that the facts hereafter are such that an adherence to the fiction of the separate existence of the Defendants would sanction a fraud or promote a miscarriage of justice.

#### SUMMARY OF THE CASE

17. This case arises out of a scheme and conspiracy amongst all of the Defendants whereby they conspired to and did cause Bridge to intentionally breach a confidentiality agreement between National and Bridge dated July 28, 2005 (the "Confidentiality Agreement" or "Agreement", a true and correct copy of which is marked and attached hereto as Exhibit "A"). The other Defendants were co-conspirators with, and alter egos of Bridge, and participated in the decision to have Bridge breach the Agreement with the intent, and for the purpose of allowing the Defendants to purloin, at no cost and for no payment to National, National's trade secrets, business operations, technical know-how and other intellectual property and enter the architectural fluorescent lighting business with the intention of unlawfully competing with National and stealing National's customers and business.

18. National is a well-established, nationally recognized company that has been engaged in the business of manufacturing and designing fluorescent lighting fixtures for installation in commercial offices, educational facilities and government buildings since 1941. National was one of the first companies in the United States to enter the business of manufacturing fluorescent lighting fixtures, which it did shortly after the fluorescent light bulb was introduced at the 1939 New York World's Fair. From 1941 until approximately 2005, National manufactured all of its own lighting fixtures at its plant located in Belleville, New Jersey.

19. In or about late 2004, early 2005, National met with Bridge, Galaxy and the various individuals associated with those entities (including those named as defendants herein) (Bridge, Galaxy and the individuals named as defendants and associated with Bridge and Galaxy are collectively referred to as the "Bridge Defendants") and entered into negotiations to have Bridge/Galaxy manufacture National products for National. National felt, at the time, that Bridge/Galaxy could manufacture the actual lighting fixtures and stamped metal housings at a more economical price than National. During the first half of 2005, there were negotiations between representatives of National and all of the individual Defendants, other than Bloomberg, regarding an agreement between National and Bridge/Galaxy whereby Bridge/Galaxy would manufacture various lighting fixtures, housings and other materials for National. National, however, was concerned that it be able to protect all of its technical know-how, garnered over the course of more than sixty years of business, trade-secrets and other intellectual property before giving that highly valuable information to Bridge/Galaxy.

20. On or around July 28, 2005, following months of negotiations, National and Bridge entered into the Agreement and Bridge/Galaxy began to manufacture and assemble for National lighting fixtures, housings and other parts to be incorporated into National lighting fixtures. In furtherance of the Agreement, and relying upon the terms of the Agreement, National did provide the Bridge Defendants with trade secrets comprised of confidential drawings, formulas, designs, documentation, on-hands training and seminars, and other information (the "Confidential Information") for the purpose of manufacturing National's products. The Bridge Defendants agreed not to disclose the Confidential Information except for those purposes and to those individuals designated in

the Agreement. National also provided its employees to show the Bridge Defendants how to manufacture National's products and parts and explain to the Bridge Defendants all of the technical information and knowledge required to manufacture National lighting fixtures. Prior to entering into the Agreement, none of the Bridge Defendants had been in the business of manufacturing any kind of lighting fixtures, including but not limited to fluorescent lighting fixtures. Any knowledge the Bridge Defendants obtained regarding the manufacture of fluorescent lighting fixtures was acquired from National and covered, at all times, by the terms of the Agreement.

21. In or around November 2007, National discovered that the Bridge Defendants had breached the Agreement and, in concert with the other named Defendants, had purloined and stolen for their own use and benefit and were using National's designs, technical know-how, drawings and other intellectual property specifically covered by the Agreement for Defendants' exclusive benefit to manufacture and market their own lighting fixtures. The individual Bridge Defendants were the moving, active conscious force behind this wrongful conduct. Upon information and belief, Defendants continue to act in concert to manufacture, market and sell fixtures using the designs the Bridge Defendants misappropriated from National, palming off the products as their own to National's clientele.

22. Defendants' conduct as alleged herein constitutes violations of federal law under Section 43(c) of the Lanham Act, 15 U.S.C. § 1125 and of the laws of the state of New York as set forth herein. As a result of Defendants' conduct, National has suffered and will continue to suffer damages and accordingly bring this action for monetary and injunctive relief.

## **MATERIAL ALLEGATIONS**

### **National Lighting's Business History**

23. National is one of the country's pioneer manufacturers and designers of fluorescent lighting fixtures, first marketing its products to the public shortly after the fluorescent light bulb was introduced in 1939 at the World's Fair. Since 1941, National has manufactured high quality, architectural grade lighting fixtures for commercial, educational, hospital, governmental and other large-scale facilities. It produces the fixtures at its plant in Belleville, New Jersey.

24. National markets its products throughout the United States using various independent sales agencies. A significant portion of its clientele is situated in the Northeastern United States. National's products are currently installed in most major office buildings in the New York tri-state vicinity and in various structures throughout the country.

### **National Lighting's Products and their Trade Dress**

25. Since its inception, National has invested enormous amounts of time, money and other resources into developing distinctive products which contractors, owners, architects and lighting consultants and engineers readily associate with National. Through years of hard work and effort, and the expenditure of substantial monies, National's fixtures carry a trade dress recognized by its customers, end users and others in the lighting industry. Its fixtures are installed in every major office building in New York City, including the iconic Chrysler and Empire State Buildings.

26. To National's knowledge, there are, throughout the country, between approximately fifteen to twenty-five other fluorescent lighting fixture manufacturers



(besides Defendants), some of which have billions of dollars in annual sales revenues, who market products somewhat comparable to National's. The National products, however, are distinctive from those manufactured by any of the other lighting manufacturers it considers its competitors. National's products' trade dress is visibly different from other manufacturers and consists of the following non-functional elements: the positioning of the fluorescent bulb, the angle at which the metal frame is curved, the placements of screws, the appearance of the inside parts, the lack of visibility of hardware, the method of wiring, the shielding design and shielding width, fixture depth, and the overall color and texture combinations.

27. National has developed a trade dress with a total image so distinct that a quick examination of these factors will cause its customers, potential customers and those involved in the selection and purchasing of lighting fixtures for commercial use to instantly recognize the origin of its product as National's even though its architectural fluorescent lighting fixtures lack identifiable labels or markings. So distinctive are National's products, in fact, that many architects and engineers in the country specify National's fixtures in the plans they draw up for buildings. These individuals are known in the lighting industry as "specifiers" and they specify, when plans are drawn for any kind of renovation or construction, which brand of fluorescent light fixtures are to be used.

28. National's designs, formulas and methods for creating its fixtures were trade secrets and proprietary information developed and owned by and known only to National and its representatives until 2005, when National entered into the Confidentiality Agreement. Prior to then, National kept its designs, formulas and methods private, to



maintain its products' distinctive trade dress. For example, National's fixtures are assembled in a certain manner that, without proper training from a National representative, would be exceedingly complicated, time-consuming and expensive to duplicate. As described below, National provided such training, methodology, and design to the Bridge Defendants only after the Bridge Defendants agreed to and executed the Confidentiality Agreement. National never revealed its trade secrets to another company prior to entering into the Agreement. It continues to take special efforts to protect the confidence of its trade secrets, including filing this action against Defendants.

29. In addition to developing its products, National has invested a great deal of time and effort into creating customized fixtures tailored to meet its customers and potential customers' specific needs. This involves building a relationship of trust with the individual end user, specifier, architect or contractor, working closely with them to ascertain the best possible, most appropriate National product for the job and engineering for them a perfectly designed fixture to function in its required capacity. The amount of goodwill National has amassed through its efforts in this regard is so vast it cannot be quantified and the loss of that goodwill would be extremely difficult if not impossible to quantify.

30. To date, National's efforts have culminated in a distinctive non-functional trade dress that carries secondary meaning, as its longstanding consumers associate its products with only one manufacturer.

#### **The Confidentiality Agreement and Potential Merger**

31. Prior to entering into the Agreement with National, the Bridge Defendants were never in the business of making commercial fluorescent lighting fixtures. Instead,

they manufactured products such as one or two residential, non-fluorescent lighting fixtures, switchgear and switchboard apparatus, HVAC (Heat Ventilation Air Conditioning) duct work, and a vast array of display products for Bridge Metal Industries. Their first foray into the architectural specification grade fluorescent lighting business occurred when National began considering a merger transaction (the "potential merger") with Galaxy and Bridge in or around 2005.

32. The details and parameters of the potential merger are set forth in an unsigned yet circulated letter of intent by National, Galaxy and Bridge dated July 2005, wherein the parties defined specific aspects of the potential merger such as asset acquisition, representations and warranties, closing date, and a license agreement. (A true and correct copy of this July 2005 letter of intent is marked and attached hereto as Exhibit "B".) The July 2005 letter is unsigned but sets forth those terms which National, Galaxy and Bridge collectively understood would define the potential merger and reflects the status of their collective negotiations and discussions as of July, 2005.

33. In early 2005, National entered into negotiations with the Bridge Defendants for an arrangement whereby they would manufacture National products *for National exclusively*. After negotiation between the parties, in anticipation of the potential merger, National required the Bridge Defendants to sign the Confidentiality Agreement. Bridge signed the Confidentiality Agreement on behalf of itself and, acting as Galaxy's agent, alter ego, and otherwise controlling entity on behalf of Galaxy. Defendants Mesa and Fredella had meetings with National both before and after the Agreement was signed in the company of National's accountant. Mesa and Fredella clearly conducted themselves

at those meetings as Galaxy's decision makers. Defendants Bregman and Lemberg acquiesced to these discussions.

34. Pursuant to the Confidentiality Agreement, and relying upon it and the protection it provided, National agreed to provide the Bridge Defendants with the Confidential Information, comprised of trade secrets including but not limited to: drawings, formulas, designs, specification sheets, cut sheets, computer generated images, instructions for assembly, actual fixture samples, and hands-on training seminars. (See Exh. A.) The parties to the Confidentiality Agreement agreed that the Bridge Defendants would use National's trade secrets solely to manufacture the fixtures for National, to allow National to evaluate the merits of the potential merger. (See Exh. A.)

35. Over the course of several months, National provided to the Bridge Defendants the Confidential Information, as provided by the Confidentiality Agreement. Representatives from National worked closely and regularly with Galaxy's and Bridge's employees and representatives to instruct them on manufacturing techniques. National also informed them where to purchase certain necessary parts and revealed to them National's longstanding clientele's contact information. All of this instruction and information were trade secrets protected under the Confidentiality Agreement. Relying upon the Agreement, National essentially taught the Bridge Defendants the entire business of designing, manufacturing and engineering National lighting fixtures.

36. After months of assessing the working relationship between National and the Bridge Defendants, National decided against the potential merger and those negotiations ended. The Bridge Defendants did continue to manufacture, for National, National lighting fixtures and the Confidentiality Agreement continued in full force and effect.

37. In or around 2006, National made it clear to the Bridge Defendants that the potential merger would not be consummated, upon which the Bridge Defendants were immediately obligated under the Agreement to either destroy all originals and copies of Confidential Information or return it all to National. (See Exh. A.) The Bridge Defendants continue to be bound by the Confidentiality Agreement.

**Bridge Defendants' Misappropriation and Breach of the Confidentiality Agreement**

38. In late 2007, National learned that instead of destroying or returning the Confidential Information, the Bridge Defendants had conspired to and had caused Bridge to breach the Agreement and were using the Confidential Information without National's permission to manufacture, market, and sell products apparently identical to National's.

39. The President of National personally visited Galaxy's and Bridge's showroom in late 2007 and saw firsthand that Defendants had created National-like fixtures, virtual clones of the National product line, which were being marketed to the public in Defendants' showroom. National's President instantly recognized the products as clones of National's products and inquired about them with a Defendant representative, who is in fact named Defendant Lemberg. (True and correct copies of brochures of National's products and photos of Defendants' showroom displaying Defendants' National-like fixtures are collectively marked and attached hereto as Exhibit "C".)

40. Lemberg proudly proclaimed to National's President that Defendants were now in the business of manufacturing and selling to National's customers and potential customers architectural grade fluorescent lighting.

Lemberg then proceeded to hand National's President specification sheets (collectively, the "specification sheets") for certain National lighting fixtures, stating that Defendants could and would manufacture lighting fixtures identical to those set forth in the specification sheets. The specification sheets were designed, created, manufactured, and published by *National* and were provided to the Bridge Defendants. (True and correct copies of the specification sheets which Defendants' representative provided to National's President, indicating specifications for National lighting fixtures and bearing National's name, logo, address and other identifying information, are marked and attached collectively hereto as Exhibit "D".) Lemberg, in the course of selling switchgear to electrical distributors (to some of whom National was selling specification grade lighting fixtures) solicited fixture business on a regular basis, routinely shredding the Confidentiality Agreement, and telling the potential clientele he was manufacturing for National but could manufacture fixtures just like National's for a less expensive price. Upon information and belief, one of the customers Lemberg routinely solicited is now an employee of Picasso and/or Green Light.

**Tortious Interference by Bloomberg and the Bloomberg Entities**

41. National recently has learned that, after the Bridge Defendants breached the Confidentiality Agreement, the Bridge Defendants conspired with Bloomberg to form the entities Picasso, Green Light, and Independent. Picasso, Green Light, and Independent (referred to collectively as the "Bloomberg Entities") were formed to act, and are acting, in concert with Bloomberg and the Bridge Defendants to handle the marketing of the lighting fixtures cloned from the National Product line. Bloomberg also has been and currently is assisting the other Defendants to manufacture, engineer, create, market,

advertise, and sell fluorescent lighting fixtures based on the Confidential Information the Bridge Defendants wrongfully purloined from National.

42. Prior to the creation of the Bloomberg Entities, Bloomberg had approached National purportedly to discuss an arrangement whereby Bloomberg would become the prime sales representative for National and, if National were sold, Bloomberg, who told National he could increase their sales volume and make National an attractive takeover target for another lighting manufacturer, would receive a substantial sum from any sales price. National disclosed to Bloomberg in the course of these negotiations several aspects of the relationship between National and the Bridge Defendants, including: the potential merger, the disclosure of Confidential Information by National to the Bridge Defendants pursuant to the Confidentiality Agreement, and the tutelage and training National provided to the Bridge Defendants.

43. As part of these discussions Bloomberg also considered forming a sales agency with National to market National's products. Bloomberg instead formed the defendant entity "Picasso" as a vessel to duplicate the National line of products. After forming Picasso, Bloomberg continued to carry on negotiations for an equity interest in National, questioning National's President about National's relationship with the Bridge Defendants. Ultimately, Bloomberg used the information gleaned from National's President to act in concert with Defendants as described herein. National believes that Bloomberg, at all material times, already was acting in concert with the other Defendants and was a conspirator in their plan to tortiously interfere with the Confidentiality Agreement and induce Bridge to breach that Agreement.

44. Bloomberg was aware of the Agreement and its terms and conditions from his discussions with National. In addition, prior to filing this litigation, National put Bloomberg on notice of the actual terms and conditions of the Agreement by forwarding to him a copy of the Agreement.

45. At all times relevant to this action, Bloomberg and the Bloomberg Entities acted in concert and as each other's controlling person, controlling entity, agent, and/or alter ego. Bloomberg and the Bloomberg Entities had, at all times relevant to this action, personal knowledge of the valid Confidentiality Agreement between National and the Bridge Defendants.

46. Upon information and belief, Bloomberg used his knowledge and standing in the lighting industry as the former president of The Lighting Group of New York to influence, encourage, pressure, and/or solicit the Bridge Defendants to breach the Confidentiality Agreement. In so doing, Bloomberg and the Bloomberg Entities deliberately interfered with, and intentionally procured the breach of, the Confidentiality Agreement by the Bridge Defendants. By conspiring with the Bridge Defendants to manufacture, market and sell products created from the purloined Confidential Information, Bloomberg and the Bloomberg Entities continue to interfere in the contractual relationship between National and the Bridge Defendants.

47. The conduct of Bloomberg and the Bloomberg Entities was and is intentional, willful, wanton, malicious, oppressive, and reckless. As a direct and proximate result of their conduct, and the Bridge Defendants' breach of the Confidentiality Agreement, National suffered and continues to suffer damage in an amount according to proof.



**Defendants' Lanham Act Violations Including Trade Dress Infringement and Reverse Palming Off; Unfair Competition; and Tortious Interference with National's Prospective Economic Relations**

48. Upon information and belief, Defendants are now collectively manufacturing and selling, to National's customers and potential customers, lighting fixtures based on the Confidential Information and trade secrets they misappropriated from National. Defendants are also marketing to National's very same clientele these unlawfully manufactured lighting fixtures. Upon information and belief, Defendants have entered the architectural grade lighting market in metropolitan New York, where the bulk of National's clients are located, and have sold to at least one third party products they tout as identical to National's without National's permission or approval.

49. As National's President has personally witnessed, Defendants' products are so similar in appearance to National's and infringe on National's distinct trade dress such that there is a substantial likelihood that consumers of architectural grade lighting fixtures will be confused as to the identity and origin of Defendants' fixtures. Indeed, Defendants' products are created using the very same specifications created by National and are clones of the National products. Upon information and belief, Defendants have sold fixtures based on National's specifications, palming them off as their own. Defendants' conduct, including their causing a likelihood of confusion among the consuming public, constitutes infringement and dilution of the trade dress of National's products.

50. Defendants not only have purloined National's confidential trade secrets. They also attempt to rob National of its hard-earned goodwill. Under the auspices of the Confidentiality Agreement, National provided Defendants with the identities and contact



information of several of their clients. Many of them have been National's customers for over half a century. National has cultivated products with these clients over the years, presenting fixtures and fine-tuning them over periods of several years to achieve acceptance under the clients' standards.

51. Defendants unfairly are using the misappropriated trade secrets and intentionally confusing consumers as to the designation of their products, all on the secondary meaning associated with National's fixtures and the considerable goodwill developed exclusively by National. Defendants are acting in concert to palm-off their products as identical to National's to the same clientele to whom National has catered for over fifty years. Without the trade secrets National diligently developed over the course of sixty-six (66) years, Defendants would be irrelevant in the lighting fixture specification community for many years before becoming recognized and accepted.

52. By purloining National's trade secrets, Defendants have entered the lighting fixture market years earlier than they would have without the trade secrets. They wrongfully attempt to gain an unfair advantage over National by using pilfered trade secrets to jump-start their entry into the business, and to falsely advertise and deceptively palm off their products so as to confuse and deceive the public about the true origin of the fixtures. Defendants' conduct amounts to unfair competition against National. Defendants' conduct, including its unfair competition against National, has directly and proximately caused, and continues to cause, interference with National's Confidentiality Agreement and its prospective economic relations with existing and potential clientele.

53. Defendants' conduct was and is intentional, willful, wanton, malicious, oppressive, and reckless. The conduct of each of the Defendants, and all of them, acting

in concert and as each other's controlling person, controlling entity, agent, and alter ego, constitutes violations of federal law under Section 43(c) of the Lanham Act, 15 U.S.C. § 1125 and the laws of the state of New York as set forth herein, as well as other independent, actionable torts. Defendants' conduct is further unjustly enriching the Defendants at the expense of National.

54. As a result of Defendants' conduct, National has suffered damages, and will continue to suffer damages, in an amount according to proof but believed to be in excess of thirty million dollars (\$30,000,000.00). Unless the declaratory and injunctive relief requested herein are granted, National will likely suffer irreparable injury as a result of Defendants' conduct. Accordingly, National brings this action for monetary damages and injunctive relief.

**FIRST CAUSE OF ACTION**  
**Trade Dress Infringement**  
**(Against All Defendants)**

55. National realleges and reasserts each allegation set forth above as if fully set forth herein.

56. Defendants' conduct as alleged herein constitutes infringement of National's trade dress, in violation of Section (43)(a) of the Lanham Act, 15 U.S.C. § 1125(a). As a direct and proximate result of Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted.

57. Defendants' conduct as alleged herein is and was intentional, willful, wanton, malicious, oppressive, and reckless, thus warranting enhanced, treble and punitive damages and attorneys' fees pursuant to 15 U.S.C. § 1117(a).

**SECOND CAUSE OF ACTION**

**Reverse Palming-Off  
(Against All Defendants)**

58. National realleges and reasserts each allegation set forth above as if fully set forth herein.

59. Defendants' conduct as alleged herein constitutes reverse palming-off of National's product as Defendants' own, in violation of Section (43)(a) of the Lanham Act, 15 U.S.C. § 1125(a). As a direct and proximate result of Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted.

60. Defendants' conduct as alleged herein was intentional, willful, wanton, malicious, oppressive, and reckless, thus warranting enhanced, treble and punitive damages and attorneys' fees pursuant to 15 U.S.C. § 1117(a).

**THIRD CAUSE OF ACTION**

**False Advertising and Labeling  
(Against All Defendants)**

61. National realleges and reasserts each allegation set forth above as if fully set forth herein.

62. Defendants' conduct as alleged herein constitutes false advertising and labeling so as to intentionally cause confusion of product identity among consumers, in violation of Section (43)(a) of the Lanham Act, 15 U.S.C. § 1125(a). As a direct and proximate result of Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted.

63. Defendants' conduct as alleged herein was intentional, willful, wanton, malicious, oppressive, and reckless, thus warranting enhanced, treble and punitive damages and attorneys' fees pursuant to 15 U.S.C. § 1117(a).

**FOURTH CAUSE OF ACTION**

**False Designation of Origin  
(Against All Defendants)**

64. National realleges and reasserts each allegation set forth above as if fully set forth herein.

65. Defendants' conduct as alleged herein constitutes false designation of origin, in violation of Section (43)(a) of the Lanham Act, 15 U.S.C. § 1125(a). As a direct and proximate result of Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted.

66. Defendants' conduct as alleged herein was intentional, willful, wanton, malicious, oppressive, and reckless, thus warranting enhanced, treble and punitive damages and attorneys' fees pursuant to 15 U.S.C. § 1117(a).

**FIFTH CAUSE OF ACTION**

**Unfair Competition  
(Against All Defendants)**

67. National realleges and reasserts each allegation set forth above as if fully set forth herein.

68. Defendants' conduct as alleged herein constitutes unfair competition, in violation of Section (43)(a) of the Lanham Act, 15 U.S.C. § 1125(a). As a direct and proximate result of Defendants' conduct, National has been harmed in an amount

according to proof, and will suffer further, irreparable injury unless the requested relief is granted.

69. Defendants' conduct as alleged herein was intentional, willful, wanton, malicious, oppressive, and reckless, thus warranting enhanced, treble and punitive damages and attorneys' fees pursuant to 15 U.S.C. § 1117(a).

**SIXTH CAUSE OF ACTION**

**Breach of Contract**

**(Against Defendants Bridge, Galaxy, Messa, Fredella, Lemberg, Bregman)**

70. National realleges and reasserts each allegation set forth above as if fully set forth herein.

71. Defendants' conduct as alleged herein constitutes breach of contract in violation of the laws of the state of New York. As a direct and proximate result of Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted.

**SEVENTH CAUSE OF ACTION**

**Breach of Implied Covenant of Good Faith and Fair Dealing**

**(Against Defendants Bridge, Galaxy, Messa, Fredella, Lemberg, Bregman)**

72. National realleges and reasserts each allegation set forth above as if fully set forth herein.

73. Defendants' conduct as alleged herein constitutes breach of the implied covenant of good faith and fair dealing in violation of the laws of the state of New York. As a direct and proximate result of Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted.

**EIGHTH CAUSE OF ACTION**

**Reverse Palming Off  
(Against All Defendants)**

74. National realleges and reasserts each allegation set forth above as if fully set forth herein.

75. Defendants' conduct as alleged herein constitutes reverse palming off in violation of the laws of the state of New York. As a direct and proximate result of Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted.

**NINTH CAUSE OF ACTION**

**False Advertising and Labeling  
(Against All Defendants)**

76. National realleges and reasserts each allegation set forth above as if fully set forth herein.

77. Defendants' conduct as alleged herein constitutes false advertising and false labeling in violation of the general business laws of the state of New York. As a direct and proximate result of Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted.

**TENTH CAUSE OF ACTION**

**Unfair Competition  
(Against All Defendants)**

78. National realleges and reasserts each allegation set forth above as if fully set forth herein.

79. Defendants' conduct as alleged herein constitutes unfair competition in violation of the laws of the state of New York. As a direct and proximate result of

Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted.

**ELEVENTH CAUSE OF ACTION**

**Deceptive Trade Practices  
(Against All Defendants)**

80. National realleges and reasserts each allegation set forth above as if fully set forth herein.

81. Defendants' conduct as alleged herein constitutes deceptive trade practices in violation of the general business laws of the state of New York. As a direct and proximate result of Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted.

**TWELFTH CAUSE OF ACTION**

**Unjust Enrichment and Imposition of Constructive Trust  
(Against All Defendants)**

82. National realleges and reasserts each allegation set forth above as if fully set forth herein.

83. Defendants' conduct as alleged herein has caused them to be unjustly enriched at National's expense in violation of the laws of the state of New York. As a direct and proximate result of Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted. Accordingly, National demands that a constructive trust be imposed for National's benefit on all revenues derived from the sale of any products manufactured by Defendants based on, arising out of, or otherwise derived from National's Confidential Information or National's products.

**THIRTEENTH CAUSE OF ACTION**

**Tortious Interference with Contractual Relations  
(Against Defendants Bloomberg, Picasso, Independent, and Green Light)**

84. National realleges and reasserts each allegation set forth above as if fully set forth herein.

85. The conduct of Defendants Bloomberg, Picasso, Independent, and Green Light and as alleged herein constitutes tortious interference with the contractual relations between National and the Bridge Defendants, in violation of the laws of the state of New York. As a direct and proximate result of Defendants' conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted. Defendants' conduct as alleged herein is and was intentional, willful, wanton, malicious, oppressive, and reckless, thus warranting punitive damages.

**FOURTEENTH CAUSE OF ACTION**

**Tortious Interference with Prospective Economic Relations  
(Against All Defendants)**

86. National realleges and reasserts each allegation set forth above as if fully set forth herein.

87. The conduct of Defendants as alleged herein constitutes tortious interference with the contractual relations between National and National's existing and potential clientele, in violation of the laws of the state of New York. As a direct and proximate result of their conduct, National has been harmed in an amount according to proof, and will suffer further, irreparable injury unless the requested relief is granted. Defendants' conduct as alleged herein is and was intentional, willful, wanton, malicious, oppressive, and reckless, thus warranting punitive damages.



**JURY TRIAL DEMAND**

National requests a jury trial on all causes of action, which entitles it to a trial before a jury.

**DEMAND FOR RELIEF**

WHEREFORE, National prays for judgment as to each Defendant, and all of them, jointly and severally, as follows, that:

A. Defendants, and their agents, employees, servants, representatives, successors in interest, and all those in concert with Defendants, be preliminary and permanently enjoined from:

1. Using in any manner the information designated as Confidential Information as referenced herein;

2. Manufacturing, creating, designing, marketing, selling, advertising producing, making, or otherwise using in any manner any lighting fixture not originating with National, that is likely to cause confusion, deception, or mistake or that dilutes or is likely to dilute the distinctive quality thereof;

3. Passing off, inducing, or otherwise enabling others to sell or pass off any products as and for products produced by National, not Defendants' or not produced under the control and supervision of National and approved by National for sale as National's;

4. Engaging in any other conduct that tends to falsely represent, or is likely to confuse, mislead, or deceive purchasers, Defendants' customers, National's customers, and other members of the public to believe that Defendants' products are

connected with National or are sponsored, approved, or licensed by National, or are in any way connected or affiliated with National;

5. Further infringing National's trade dress;
6. Further damaging National's goodwill; and
7. Assisting, aiding, or abetting any other person or business entity in engaging in or performing any of the activities referred to in subparagraphs 1-7 herein.

B. National be awarded compensatory damages in an amount to be determined at the time of trial but believed to be in excess of \$30,000,000, and that such damages be enhanced and/or trebled;

C. National be awarded punitive damages;

D. All gross revenues earned by Defendants through the time of trial as a result of the conduct alleged herein be held in constructive trust and paid over to National and increased as appropriate under the exceptional circumstances of this case;

E. National recover its reasonable attorneys' fees, costs, and expenses incurred herein;

F. Plaintiffs be awarded prejudgment and post-judgment interest at the legal rate; and

G. Plaintiffs recover such other and further relief as this Court deems just and proper.

Signed this 6<sup>th</sup> day of June, 2008.

Submitted by,

SHUSTAK & PARTNERS, P.C.  
ERWIN J. SHUSTAK



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Arian A. Baryalai (AB 5050)  
abaryalai@shufirm.com

400 Park Avenue  
New York, NY 10022  
Telephone: (212) 688-5900  
Facsimile: (212) 688-6151

Attorneys for Plaintiff

OF COUNSEL:

Jonah A. Toleno, Esq.  
[jtolen@shufirm.com](mailto:jtolen@shufirm.com)  
Shustak & Partners, P.C.  
401 West A Street, suite 2330  
San Diego, CA 92101  
619.696.9500

# EXHIBIT A

NATIONAL LIGHTING COMPANY, INC.

WORK-O-LITE COMPANY, INC.

July 28, 2005

Mr. Bob Blanchard  
American Finishing  
123 NJ Railroad Avenue  
Newark, NJ 07105

Mr. Joe Mesa  
Bridge Metal Work  
717 South 3<sup>rd</sup> Avenue  
Mt. Vernon, NY 10550

Blaise Fredela  
Bridge Metal Work  
717 South 3<sup>rd</sup> Avenue  
Mt. Vernon, NY 10550

Dear Sir or Madam:

In connection with a potential transaction (the "Transaction") involving National Lighting Company, Inc., Work-O-Lite Company, Inc. (together with National Lighting Company, Inc., the "Company"), Galaxy Switchgear, Inc. and Bridge Metal Works, Inc. (together with GALaxy Switchgear, Inc., the "Enquirers"), the Enquirers have requested and will be provided with certain non-public or confidential information concerning the Company, including without limitation, technical information, formulas, pricing, manufacturing drawings, documents, data, or information, relating to devices, methods, materials, ideas, plans, processes, apparatus, designs, drawings, research, yields, or specifications. All such information so furnished is hereinafter referred to as "Confidential Information." In consideration of the Enquirers being furnished with such Confidential Information, the Enquirers agree as follows:

1. The Confidential Information will be kept confidential and will not, without the prior written consent of the Company, be disclosed by the Enquirers or their agents, employees or representatives (which term shall include the Enquirers' directors, officers, financing sources, advisors, counsel and accountants) ("Representatives"), in any manner whatsoever, in whole or in part. The Enquirers agree to disclose the Confidential Information only to its Representatives who need to know the Confidential Information for the purpose of evaluating the Transaction and who are informed by the Enquirers of the confidential nature of such information.

All information and materials disclosed by the Company to the Enquirers or their Representatives shall be presumed to constitute Confidential Information and will be so regarded by the Enquirers. Confidential Information does not include information or records which (i) was or becomes generally available to the public other than as a result of a disclosure by the Enquirers or their Representatives, (ii) was or becomes available to the Enquirers on a non-confidential basis prior to its disclosure to the Enquirers or their Representatives by the Company or its Representatives or (iii) was or becomes available to the Enquirers on a non-confidential basis from a source (other than the Company or its Representatives) which has represented to the Enquirers that it is not bound by a confidentiality agreement with the Company or otherwise prohibited from transmitting any portion of the information by a contractual, legal or fiduciary obligation.

3. If the transaction is not consummated, the Enquirers will, and will cause each of their Representatives to, upon request, return to the Company or destroy the originals and all copies of Confidential Information and the Enquirers will, and will cause each of its Representatives to, upon request, destroy all copies of any analyses, compilations, studies or other documents prepared by or for the Enquirers' internal use which reflect or were prepared based upon the Confidential Information.

4. In the event the Enquirers or their Representatives are requested or required in any legal proceeding (by interrogatories, deposition requests for information or document subpoena or similar process) to disclose any Confidential Information, it is agreed that the Enquirers will provide the Company with prompt notice of such request(s) so that the Company may seek an appropriate protective order and/or waive compliance with the provisions of this Agreement. If, in the absence of a protective order or the receipt of a waiver hereunder, the Enquirers or their Representatives are nonetheless, in the written opinion of counsel furnished to the Company at least five business days prior to the date on which such disclosure is required, compelled to disclose Confidential Information or else stand liable for contempt or suffer other censure or penalty, the Enquirers or their Representatives, as the case may be, may, no earlier than the day on which it is last permitted to respond, disclose only such of the Confidential Information to the party compelling disclosure as counsel advises in writing is required by law, and will assist the Company in obtaining reliable assurance that confidential treatment will be accorded such Confidential Information. In any event, neither the Enquirers nor any of or their Representatives will oppose any action by the Company to obtain an appropriate protective order or other reliable assurance that confidential treatment will be accorded the Confidential Information.

5. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New York, without regard to principles of choice or conflicts of law.

6. The terms of this Agreement shall be effective for a period of five years from the date of execution.

Very truly yours,

National Lighting Company, Inc.

By: 

Work-O-Lite Company, Inc.

By: 

ACKNOWLEDGED AND ACCEPTED:

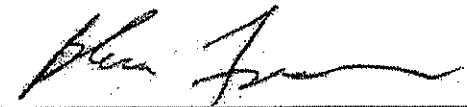
American Finishing

  
Bob Blanchard

Bridge Metal Work

  
Joe Messa *MESSA*

Bridge Metal Work

  
Blaise Fredela *FREDELA*

Dated: July \_\_, 2005

# EXHIBIT B



July \_\_, 2005

Galaxy Switchgear, Inc.  
[address]

Bridge Metal Work, Inc.  
[address]

Ladies and Gentlemen:

This letter of intent sets forth our mutual understanding concerning the terms and conditions of a transaction among Galaxy Switchgear, Inc., a New York corporation ("Galaxy") and Bridge Metal Work, Inc., a New York corporation, ("Bridge Metal" and together with Galaxy, "Buyer"), National Lighting Company, Inc., a New Jersey corporation (the "Company" or the "Seller" or "National Lighting") and Work-O-Lite Company, Inc., a New Jersey corporation ("Work-O-Lite"). This letter of intent outlines the parameters of a possible transaction and the parties to this letter of intent do not intend to create a legally binding agreement between them. A legally binding commitment will only result after the drafting, negotiation, execution and delivery of a definitive agreement and the obtaining of all necessary third party consents. The date of the signing of the definitive agreement is the Closing Date.

1. Asset Acquisition. Buyer shall purchase certain assets of Seller including goodwill, the right to the National Lighting name, catalog rights, product rights, intellectual property rights, and various tools and die, all as listed on Schedule A (the assets to be purchased are referred to herein as the "Assets"). Buyer shall not purchase, and Seller shall not sell to Buyer, the following assets of Seller: accounts receivable, inventory, cash, any machinery or equipment owned by Seller, existing sales backlog or open, unfilled orders or payables.

2. Representations and Warranties. The definitive agreement will contain normal representations and warranties.

3. Seller's Current Employees. Buyer and Seller agree to maintain this transaction in confidence and not share the subject of this transaction with any of Seller's current employees.

4. Closing Date. The Closing Date shall be \_\_\_\_\_, 2005 assuming due diligence investigations have been completed by both parties and definitive agreements have been drafted, negotiated, executed and delivered.

## 5. Payment of Purchase Price and Security

(a) The total purchase price for the Assets shall be \$ \_\_\_\_\_. The purchase price will be payable as per agreed payment plan with an initial payment of \$ \_\_\_\_\_ paid on the Closing Date. One year after the Closing Date, Buyer shall pay Seller \$ \_\_\_\_\_ with an accrued interest charge of the prime rate (as such term is published from time to time in the Wall Street Journal) (the "Interest Rate"). Two years after the Closing Date, Buyer shall pay Seller \$ \_\_\_\_\_ plus interest at the Interest Rate. Three years after the Closing Date, Buyer shall pay Seller \$ \_\_\_\_\_ plus interest at the Interest Rate. Four years after the Closing Date, Buyer shall pay Seller \$ \_\_\_\_\_ plus interest at the Interest Rate. Five years after the Closing Date, Buyer shall pay Seller \$ \_\_\_\_\_ plus interest at the Interest Rate. Buyer has the right to prepay the outstanding balance at any time.

(b) The purchase price will be secured by a performance bond purchased by Galaxy Bridge for \$10,000,000 renewable annually. As security for the timely and full payment of the note referenced above, the following individuals shall execute personal guarantees in favor of Seller:

---

## 6. Exclusive License Agreement

In addition, at the Closing, Buyer and Work-O-Lite shall enter into a license agreement (the "License Agreement"). The License Agreement will cover the following:

(a) Work-O-Lite's right to be the exclusive marketing agent and manufacturer's representative for Buyer. Work-O-Lite shall be exclusively responsible for new product development for Buyer worldwide for the term of the License Agreement.

(b) Work-O-Lite shall purchase all products from Buyer at designated prices with a blanket, "fill or orders placed by National" standing commitment, with agreed upon price increases which shall be no greater than the [manufacturer's wholesale price index as promulgated, from time to time, by the Department of Labor or similar governmental agency which publishes such information] with the exception of the products listed in Schedule B which Buyer agrees not to manufacture and Work-O-Lite shall be permitted to buy elsewhere. Work-O-Lite gives Buyer the right of first refusal on other new products not in Buyer's current product line and as listed on Schedule C and components which it may need to purchase in its course of business. The terms of the purchase of the new products shall be negotiated in good faith. If the parties are unable to reach an agreement in thirty days, Work-O-Lite will pay Buyer net thirty days 2% ten day pay and other discounts to be arranged for prepayment and the parties may jointly develop and have the products manufactured by a third party other than Buyer.

- (c) Buyer shall not manufacture, produce, assemble, distribute or broker, whether under Buyer's own label or under a private label for any other lighting manufacturer, distributor, broker or sales agent without the prior written consent of Work-O-Lite in each instance.
- (d) Buyer shall be responsible for the ground transportation of the goods covered by the License Agreement for goods to be delivered within New York City, Connecticut and New Jersey. The prices quoted in the License Agreement are inclusive of this freight charge. Buyer shall provide adequate insurance on the shipped goods.
- (e) Buyer shall list Work-O-Lite [and Seller] on its Underwriters Laboratories.
- (f) Buyer shall carry product liability insurance with coverage of at least \$10,000,000 and shall list Work-O-Lite [and Seller] as additional insured parties.
- (g) Buyer agrees not to sell, copy, imitate or license any of Seller's product designs without Seller's prior written consent.
- (h) The License Agreement shall contain a mutually agreed upon description of the pricing structure for Work-O-Lite's purchase of Buyer's products.
- (i) The term of the License Agreement shall be 10 years.
- (j) Work-O-Lite, as agent for Buyer, will be able to avail itself of Buyer's factory for purposes of allowing potential Work-O-Lite customers to visit the factory site to inspect it as such customers shall request. Work-O-Lite shall also have access to Buyer's web site and other marketing materials and may incorporate all or any part of that web site and any printed materials into Work-O-Lite's web site or printed materials.
- (k) To ensure Buyer's performance as the sole supplier of lighting products to Work-O-Lite, at Closing Buyer shall deliver to Work-O-Lite a performance bond, in the minimum amount of \$ \_\_\_\_\_, issued by a company with a Best rating of A or better licensed to conduct business within the State of New Jersey or New York. That performance bond shall state that it is issued to fully secure Buyer's entire timely fulfillment of its obligations to Work-O-Lite under the terms of the License Agreement and shall be renewed annually for each year during the term of the License Agreement and shall be performance bond is not renewed by the company issuing it and is not replaced by a similar performance bond prior to the time of the expiration of the existing performance bond, it shall constitute a material breach by Buyer of its obligations under the License Agreement and Work-O-Lite shall immediately be released from any of its obligations under the License Agreement; the name "National" shall immediately revert back to the Seller and Work-O-

Lite shall be free to enter into another licensing agreement with another third party to have that party fulfill any orders for lighting fixtures that National may have.

8. Right To Use Seller's Name. So long as Buyer is not in default under terms of either the definitive asset purchase agreement or the License Agreement, Buyer may use Seller's name for the conduct of its business. Seller shall not be responsible, in any fashion, for any liabilities or obligations of Buyer from and after the Closing Date.

9. Expenses. The parties shall pay their own expenses in connection with the legal transactions contemplated by this letter of intent.

10. Standstill. Seller and Buyer agree that upon execution and delivery of this letter of intent, and so long as Buyer is proceeding with the transaction in good faith, Seller shall not, for a period of the earlier of the execution and delivery of definitive documents or September 1, 2005, solicit, accept, negotiate, discuss, consider, accept proposals or otherwise take any action, directly or indirectly, in connection with any transaction involving the sale of Seller or its assets.

11. Other Terms and Conditions. The Sales and License Agreements shall contain other Typical terms and conditions including, but not limited to:

(a) The agreements shall be binding upon and inure to the benefit of all parties successors and assigns.

(b) In the event of any dispute, any such dispute shall be resolved exclusively by the Federal or State Courts of New York City, New York County and, in the event of any such dispute, the prevailing party shall be entitled to recover all of its reasonable expenses incurred in connection with such litigation including, but not limited to legal fees, expert fees and court costs.

This letter supersedes all prior correspondence and verbal discussions between Buyer and Seller.

Very truly yours,

National Lighting Company, Inc.

\_\_\_\_\_  
By:

Work-O-Lite Company, Inc.

\_\_\_\_\_  
By:

Galaxy Switchgear, Inc.

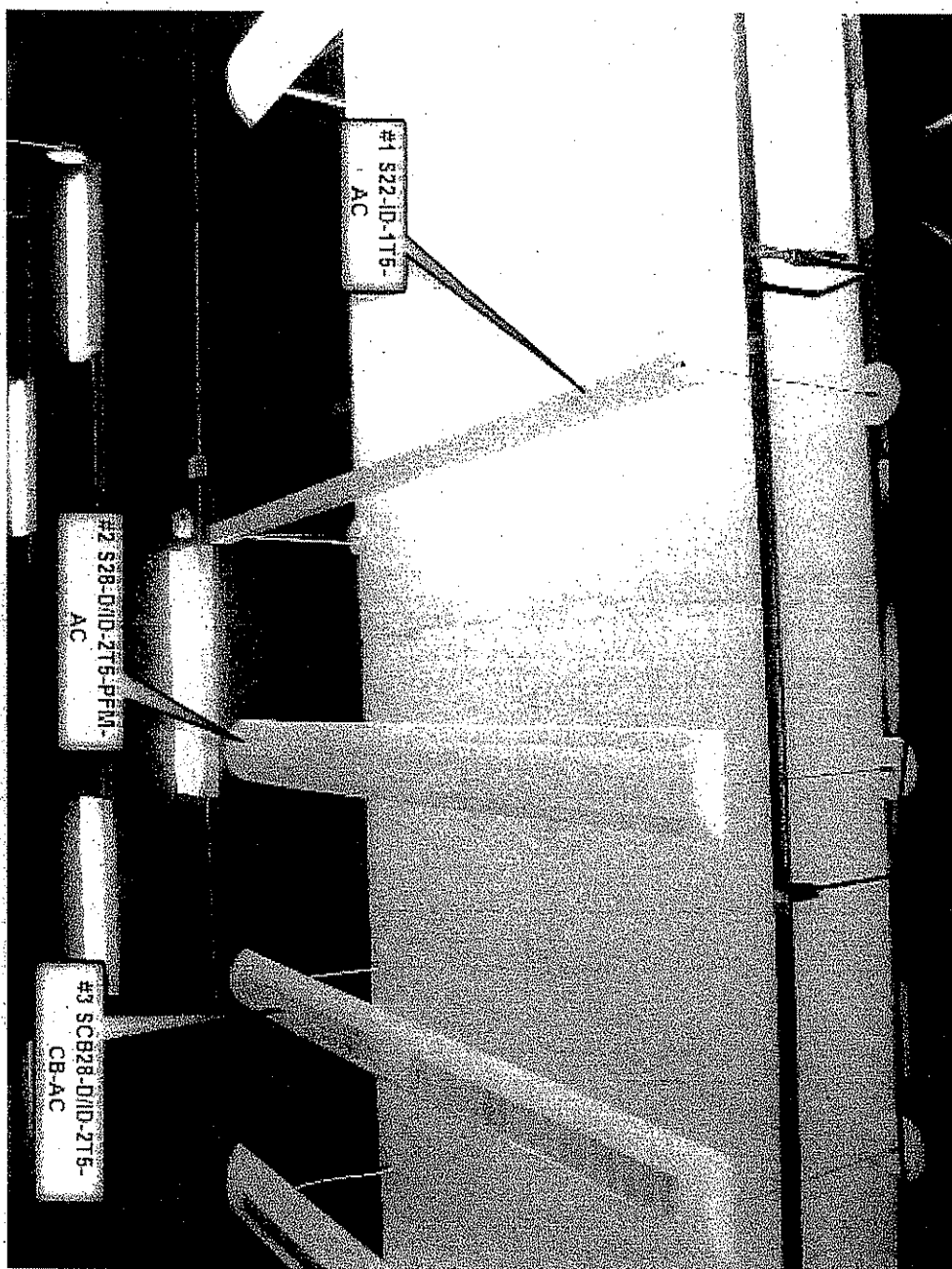
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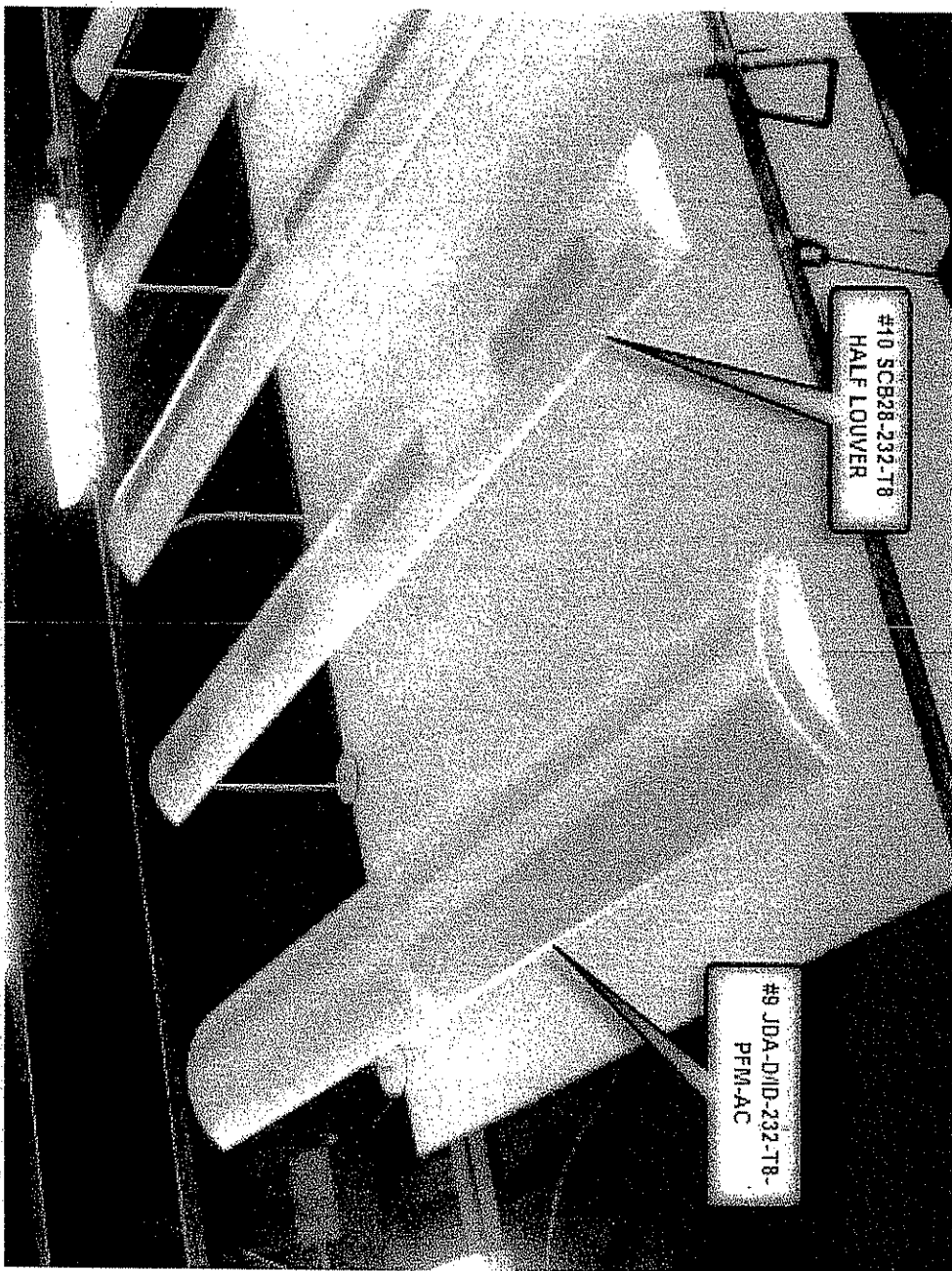
Bridge Metal Work, Inc.

\_\_\_\_\_  
By:

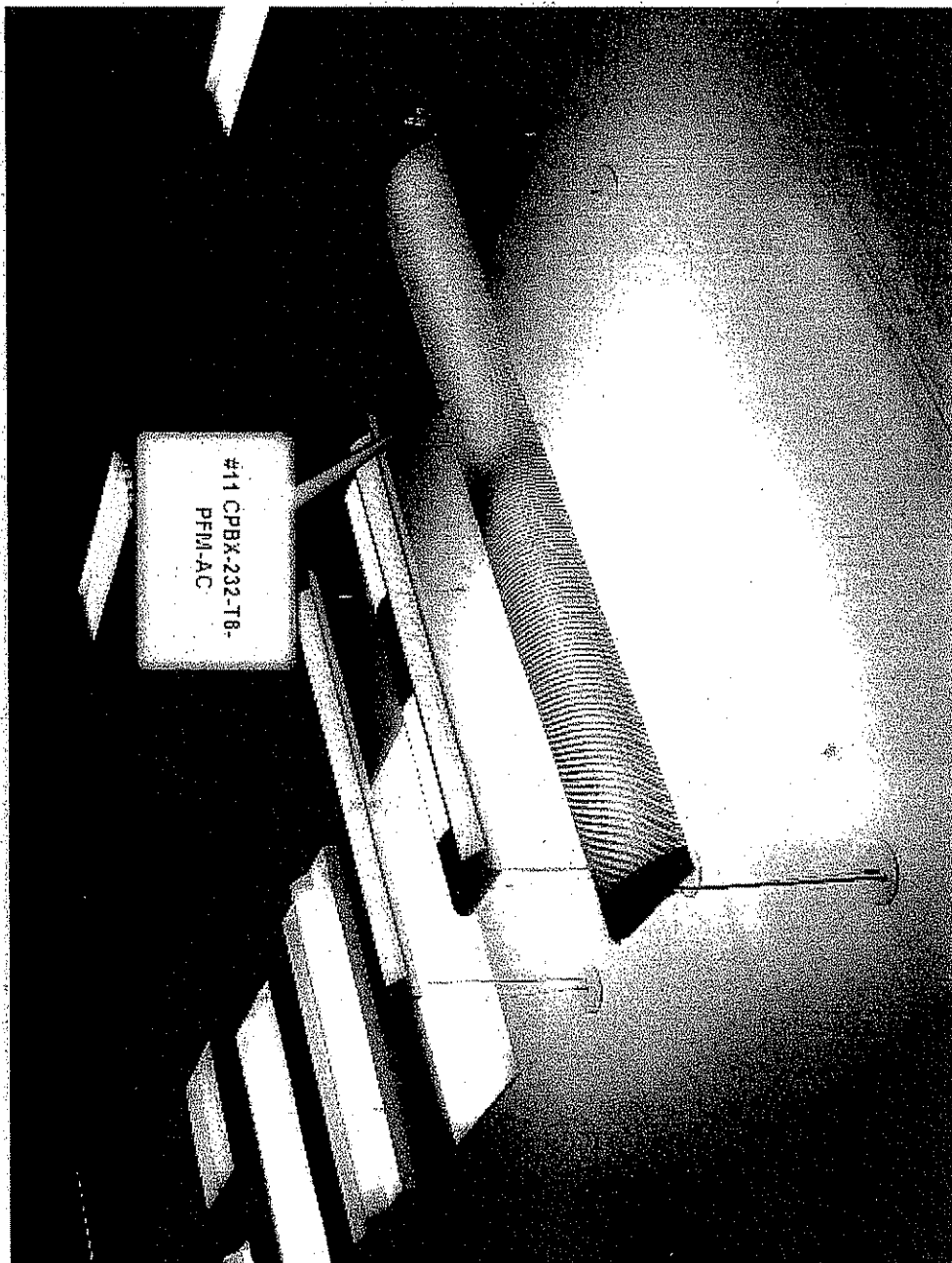
# EXHIBIT C

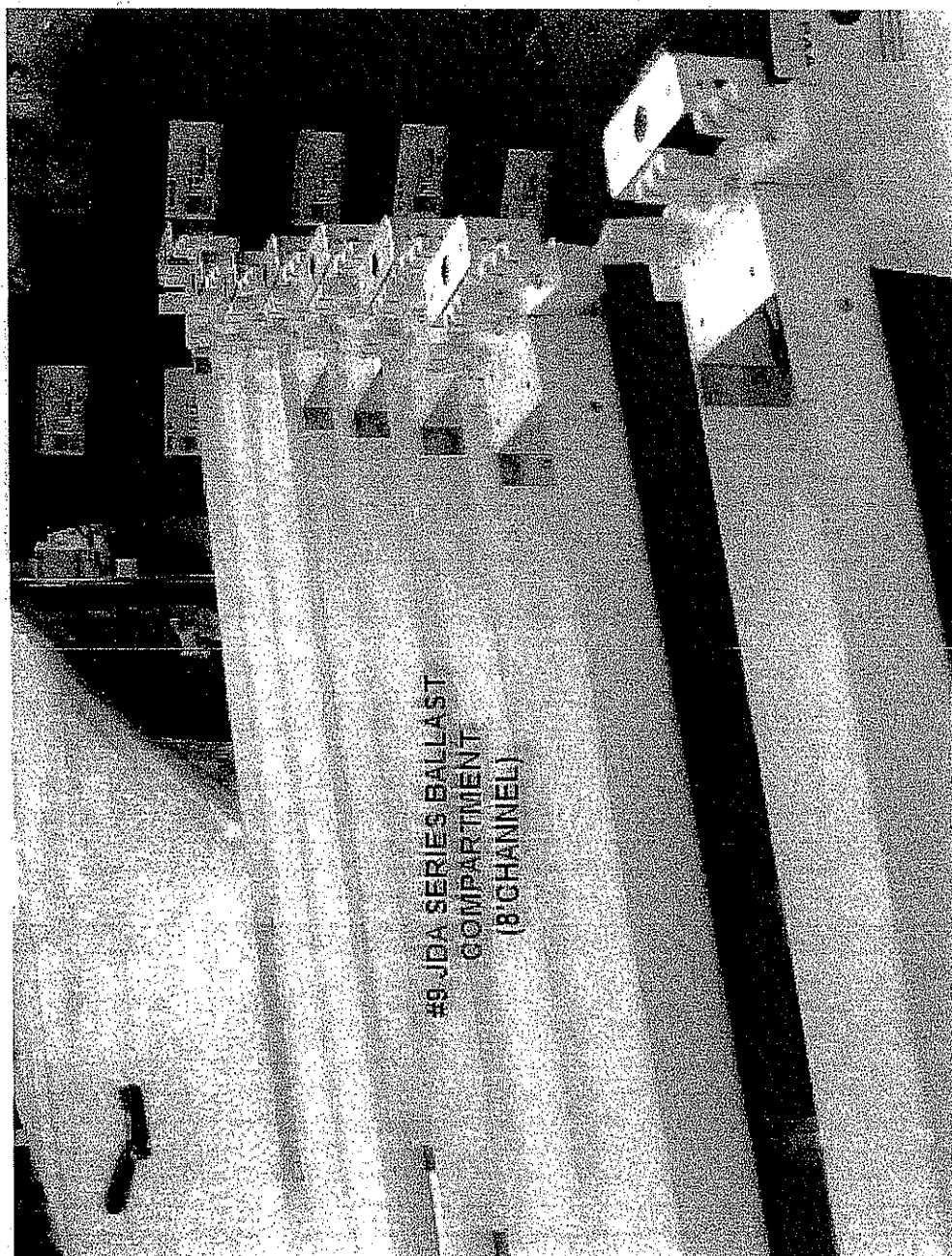


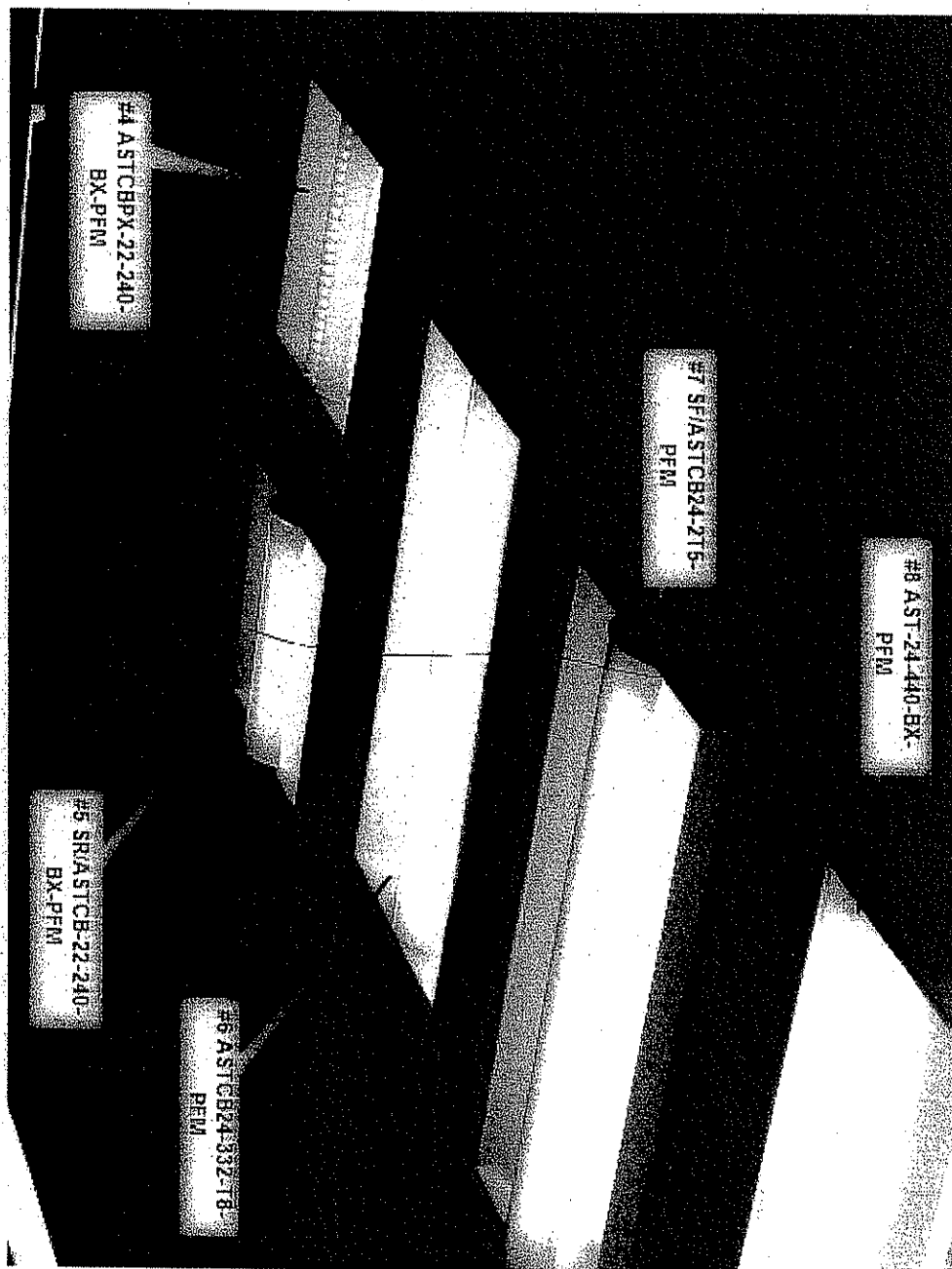


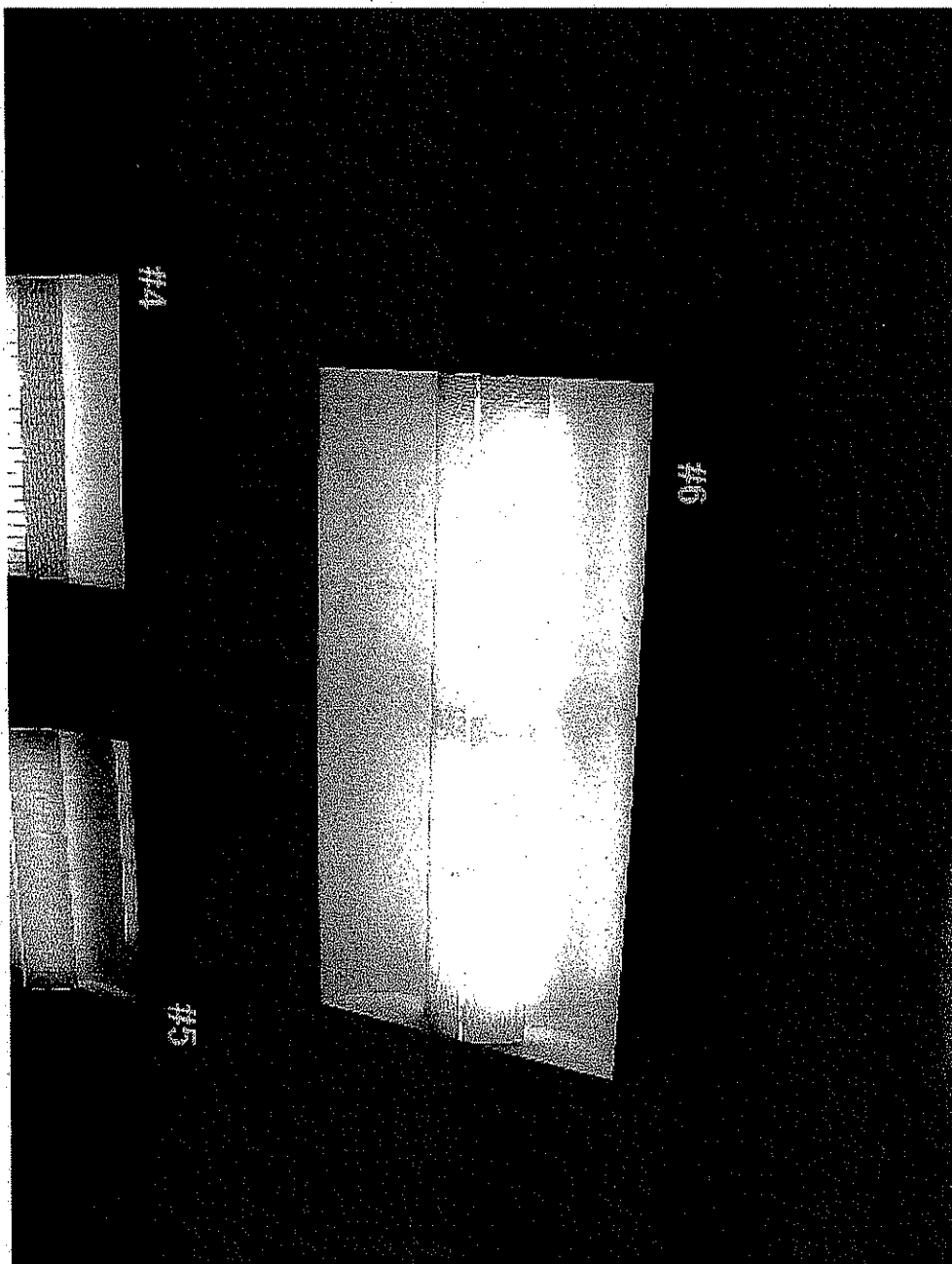




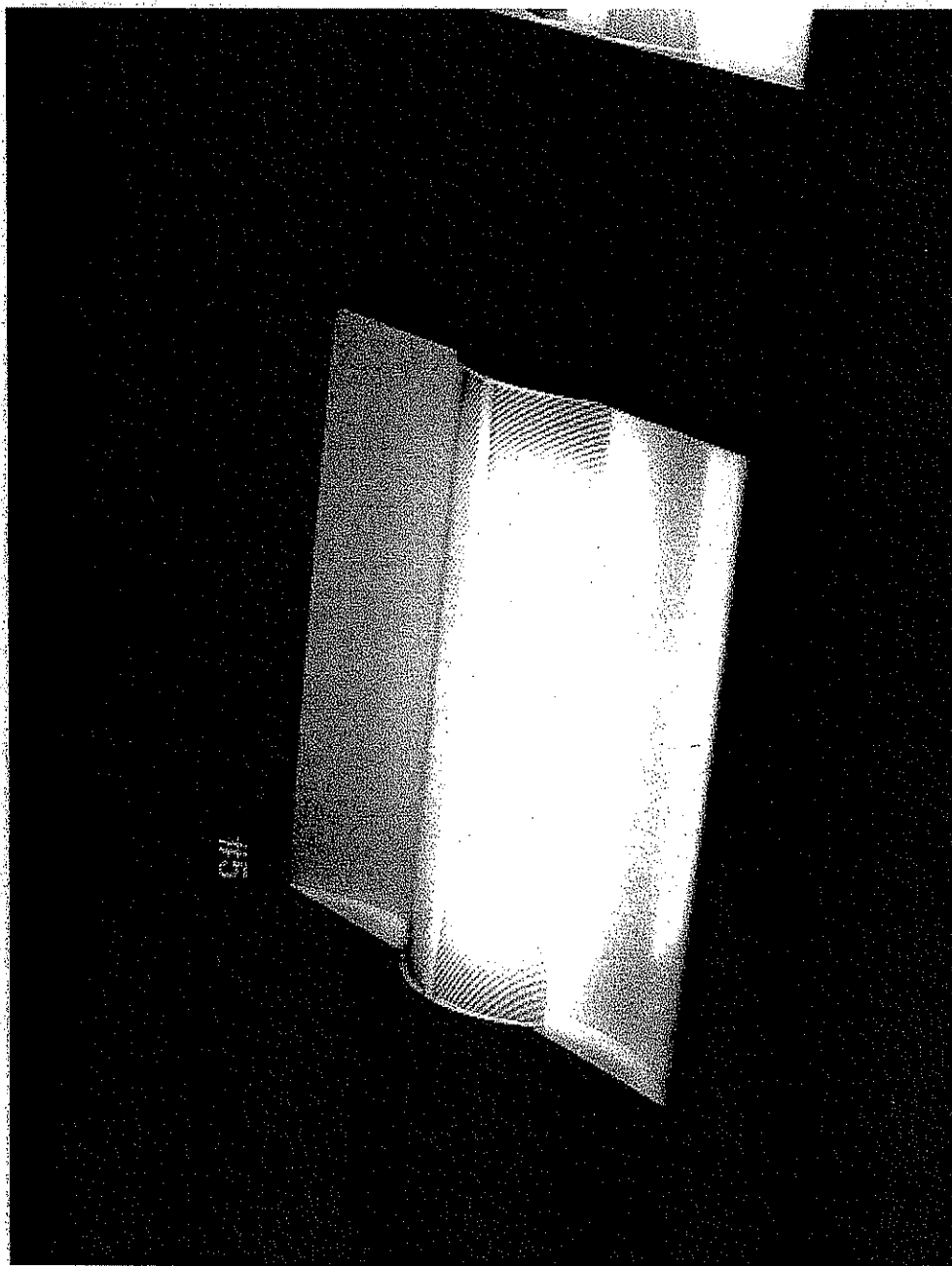










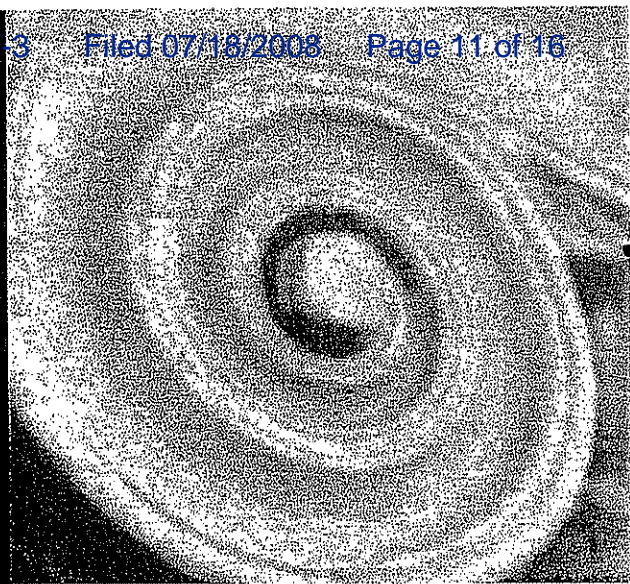




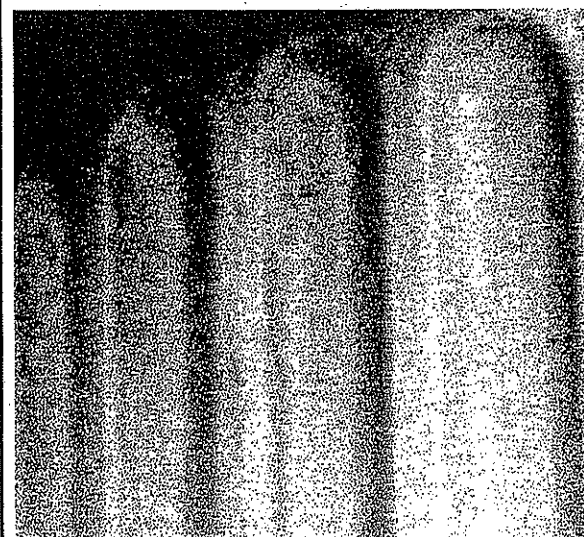
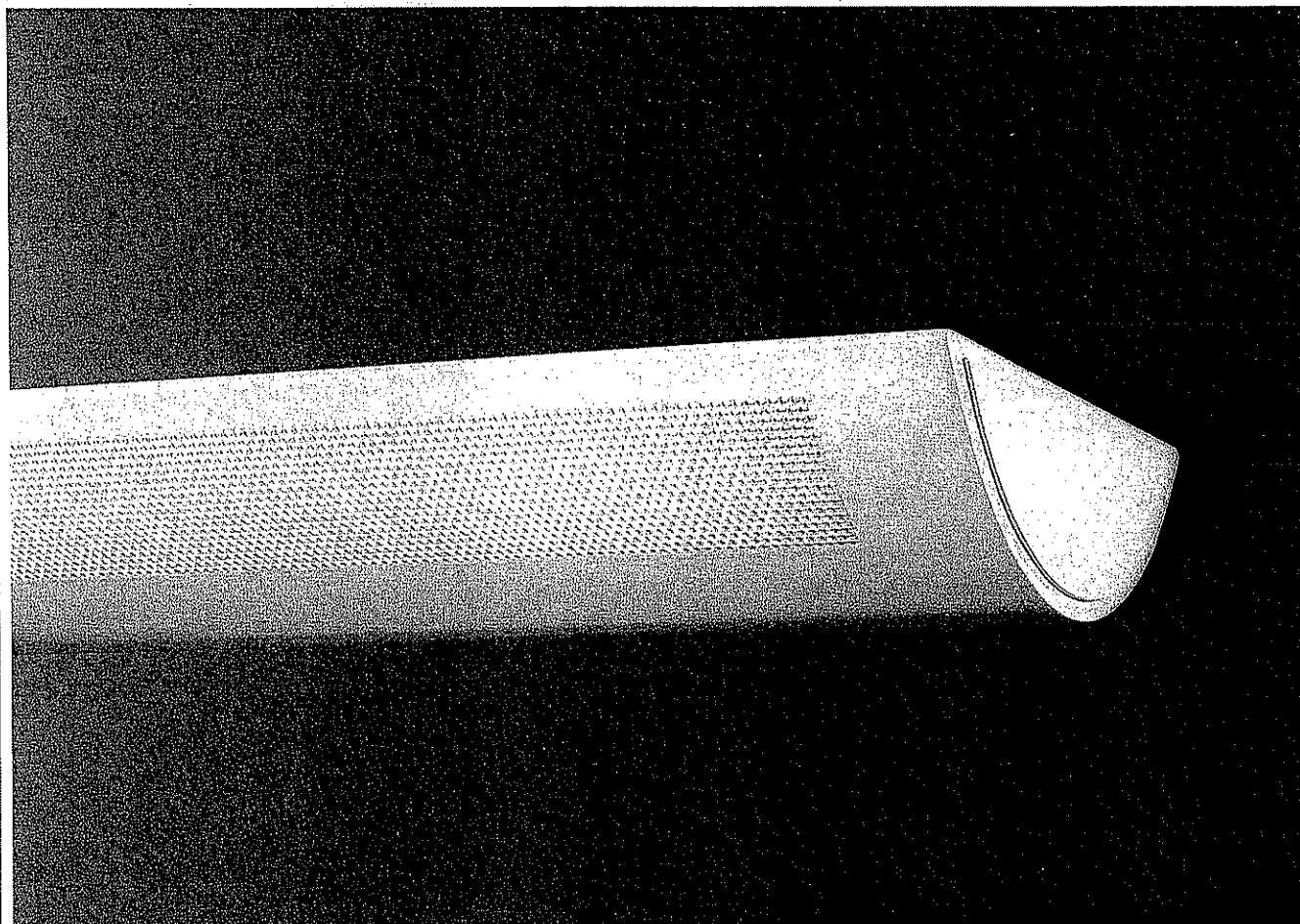
**EXHIBIT D**

# S28

SERIES



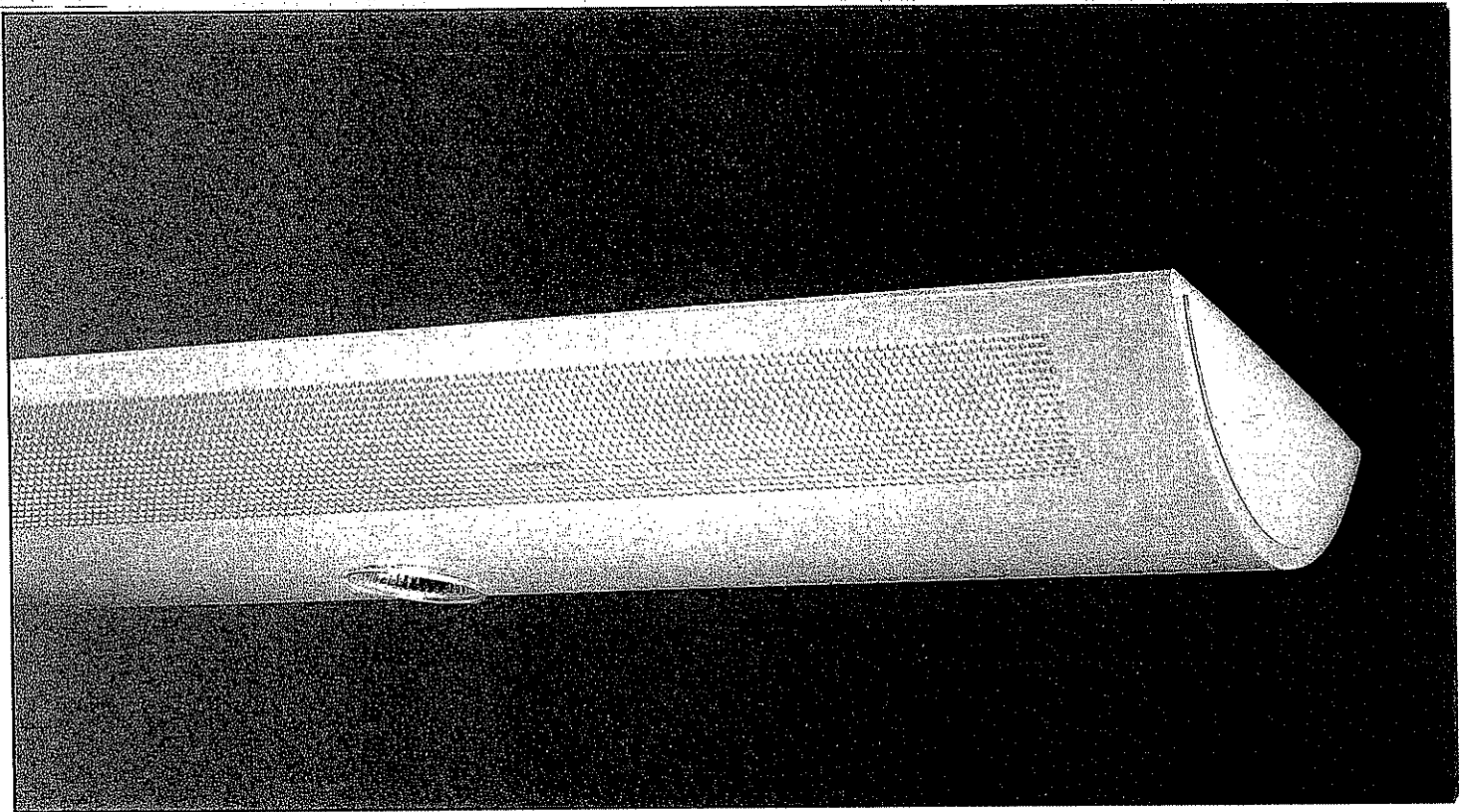
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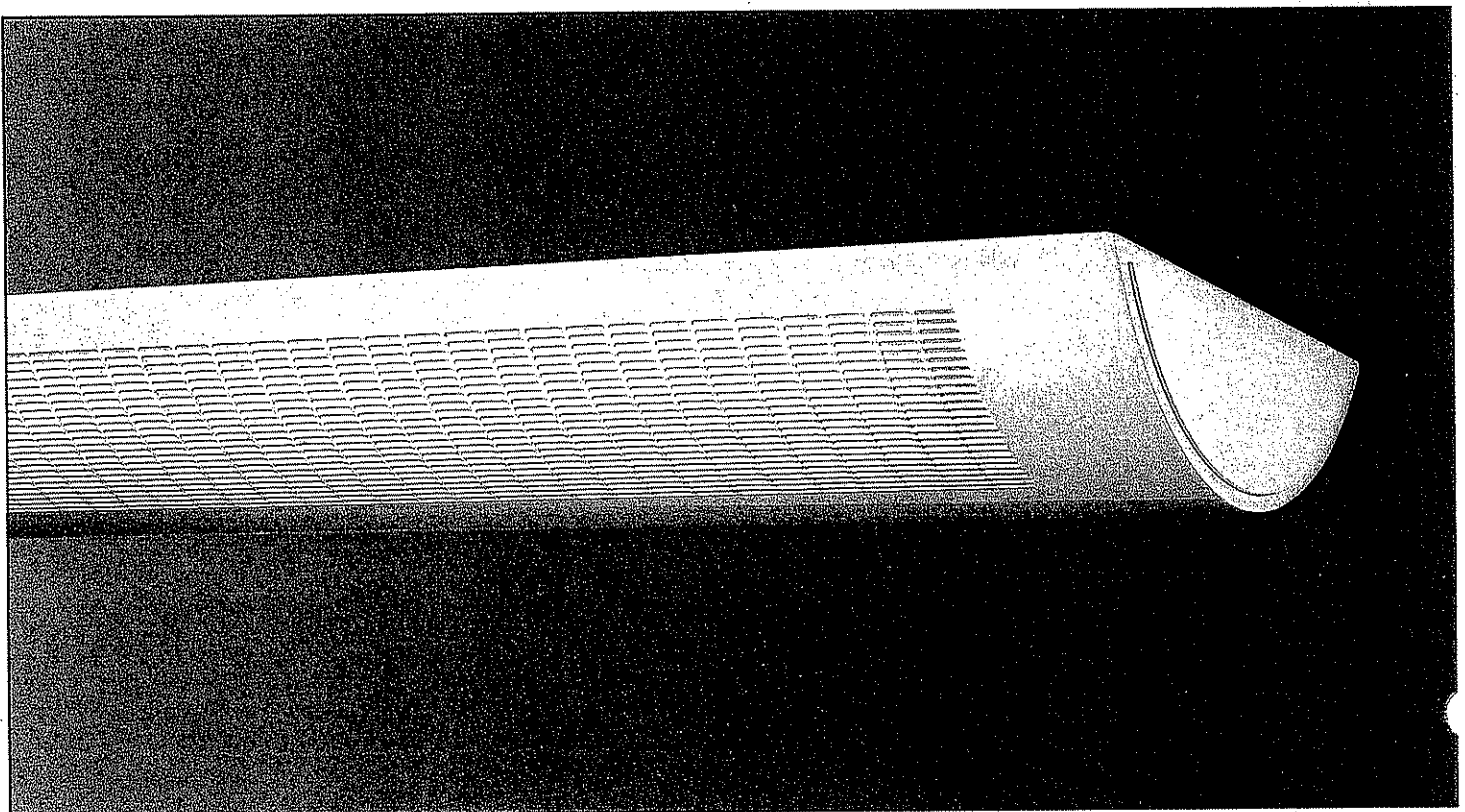
## **INDIRECT PENDENT MOUNTED**

*The S28 Series is designed to provide wide, even illumination from a 2-1/2" deep by 8" wide fixture housing. The S28 is fabricated from 18 gauge steel. The reflecting systems are designed for T5, T8, and BIAx lamps, with wide spacing of fixture rows and even ceiling brightness. Perforated sides are available, to enhance the trim design of the S28 series. Contoured cast end caps are available to complete the overall fixture design. Twelve-foot long fixture housings are available.*





S28 - Perforated with MR Downlights

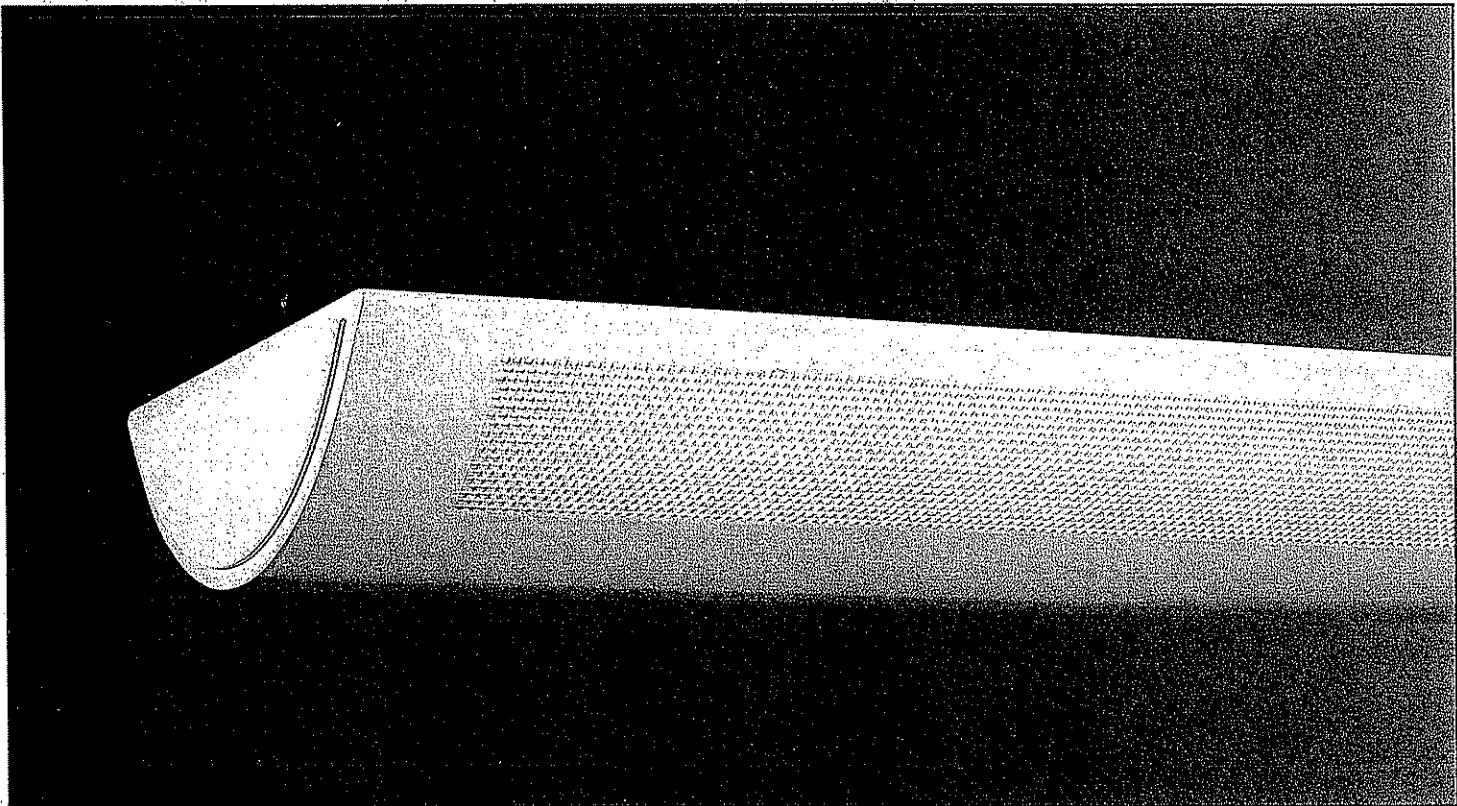


S28 - Slotted

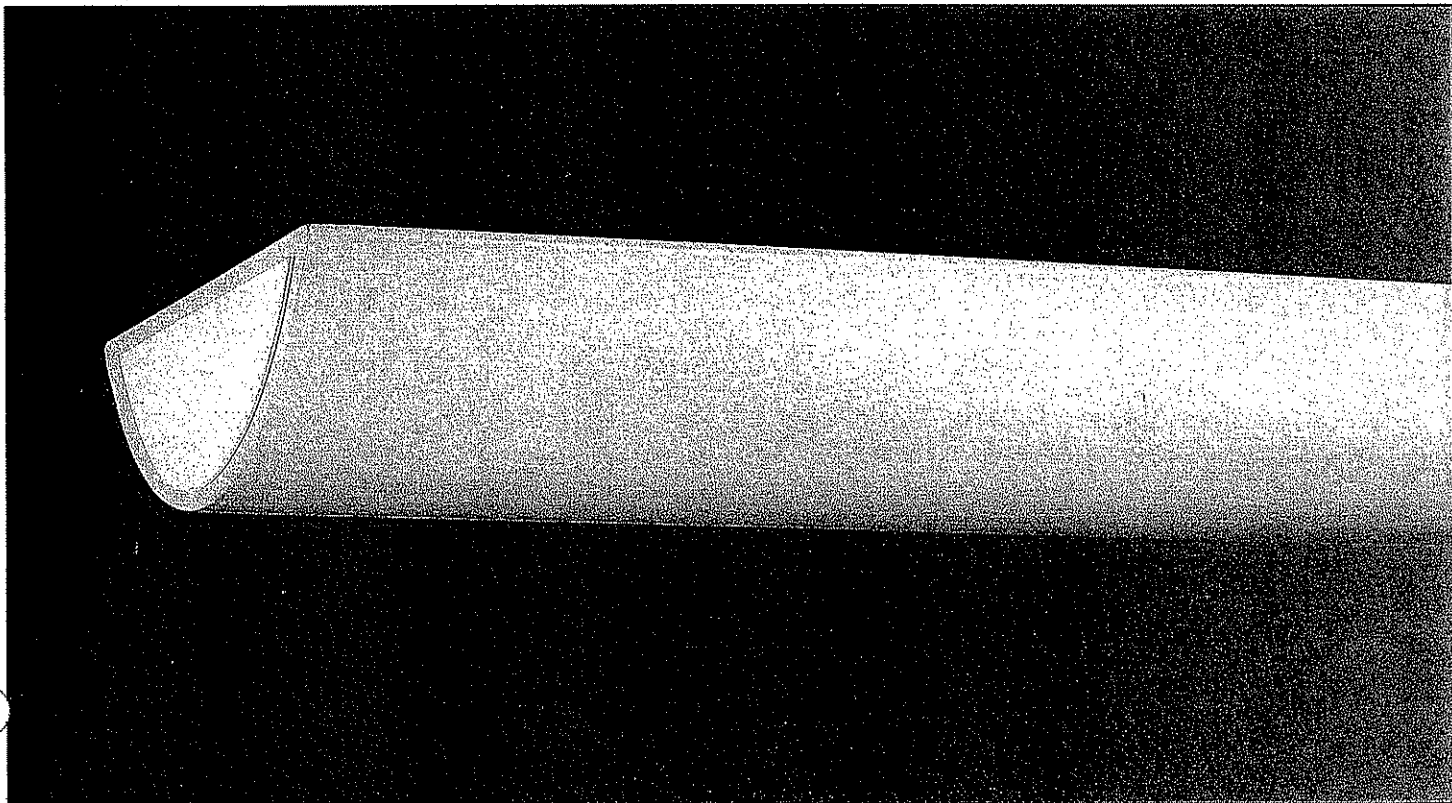


# S28 SERIES

## PICTURE VIEW

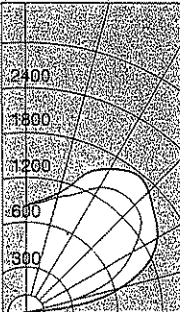



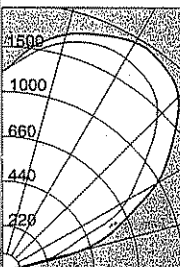
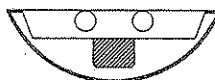
S28 - Perforated




S28 - Solid


## LUMEN PERFORMANCE

	CANDELA DISTRIBUTION SUMMARY							COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20							ZONAL LUMEN SUMMARY			
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80	.70	.50	.30	.10	0	ZONE	LUMENS	%LAMP	%FIXT
	90°	4	17	34	49	53		RW	.7	.5	.3	.1	.5	.3	0-90°	0	0	0
	95°	27	99	129	144	150	127	RCR							90-120°	846	29.2	33.5
	105°	118	245	321	365	375	310	0	85 85 85 85	73 73 73 73	50 50 50	29 29 29	9 9 9	4	90-130°	1334	46.0	50.3
	115°	227	333	445	508	527	410	1	78 74 71 69	66 64 61 60	44 42 41	26 25 24	9 9 8	3	90-150°	2068	71.3	81.3
	125°	333	398	511	578	602	438	2	71 65 60 56	60 56 52 48	38 36 32	23 22 21	8 7 6	2	90-180°	2592	89.4	99.9
	135°	425	465	550	615	636	417	3	64 58 52 48	55 49 45 40	35 32 31	20 19 18	7 6 5	2	0-180°	2662	92.5	100.0
	145°	505	525	579	623	640	364	4	59 50 45 39	50 43 39 34	30 27 24	18 16 15	6 6 5	1	 1 LAMP T8 SOLID			
	155°	563	575	603	626	636	279	5	54 45 38 33	47 38 33 29	28 26 22	16 15 14	5 5 4	1				
	165°	603	608	620	630	632	179	6	51 40 33 29	42 34 29 25	24 21 19	14 13 12	5 4 4	0				
	175°	624	624	629	627	626	69	7	46 36 29 25	39 30 26 22	22 19 16	16 11 10	5 5 4	0				
180°	628	628	628	628	628		8	42 32 26 22	36 28 23 19	20 19 14	12 10 9	4 4 3	0					
							9	39 29 23 19	33 25 20 17	18 15 12	11 9 8	3 3 2	0					
							10	36 27 21 17	31 23 18 15	16 13 11	10 8 6	2 2 1	0					

	CANDELA DISTRIBUTION SUMMARY							COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20								ZONAL LUMEN SUMMARY				
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80	.70	.50	.30	.10	0	ZONE	LUMENS	%LAMP	%FIXT		
	90°	4	23	27	28	22		RW	.7	.5	.3	.1	.5	.3	.1	0	0-90°	0	0	0
	95°	51	188	213	216	212	215	RCR									90-120°	1397	24.1	28.2
	105°	206	460	670	703	704	598	0	80 80 80 80	69 69 69 69	47 47 47	28 28 28	9 10 10	5	90-130°	2969	51.2	54.2		
	115°	380	599	877	1060	1116	808	1	73 69 66 64	62 60 58 55	41 40 39	24 23 22	8 8 7	4	90-150°	4205	72.5	83.4		
	125°	547	727	972	1162	1205	838	2	66 60 56 52	56 52 48 45	36 34 32	22 21 20	7 7 6	3	90-180°	5012	86.4	100.0		
	135°	702	841	1032	1200	1258	784	3	60 53 48 43	52 46 41 38	32 29 27	19 18 17	7 6 6	3	0-180°	4999	86.2	100.0		
	145°	832	935	1071	1195	1236	665	4	55 47 41 37	47 41 36 32	28 25 23	17 15 14	6 5 5	2	 2 LAMP T8 SOLID					
	155°	934	996	1087	1167	1193	501	5	50 41 36 31	43 36 31 27	25 22 19	15 13 12	5 4 4	2						
165°	1005	1038	1078	1119	1130	307	6	46 37 31 27	40 32 27 23	23 19 17	13 12 11	5 4 3	1							
175°	1038	1045	1050	1058	1067	108	7	43 33 27 23	36 29 24 20	20 17 15	11 10 9	4 3 3	1							
	180°	1043	1043	1043	1043	1043		8	39 30 24 20	34 26 21 18	18 15 13	12 10 9	3 3 2	1						
								9	37 27 22 18	31 24 19 16	17 14 11	9 9 7	3 2 2	0						
								10	34 25 19 16	29 22 17 14	15 12 10	9 7 6	2 2 1	0						

CANDELA DISTRIBUTION SUMMARY							COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20										ZONAL LUMEN SUMMARY			
ANGLE							RCC										ZONE			
0.0 22.5 45.0 67.5 90.0 FLUX							.80 .70 .50 .30 .10 0										0-90° 356 4.1 5.3			
90° 7 20 22 19 18							RW .7 .5 .3 .1 .7 .5 .3 .1 .5 .3 .1 .5 .3 .1 .5 .3 .1 0										90-120° 2471 28.4 28.6			
2500 95° 77 207 209 206 202 226							RCR 0 84 84 84 84 72 72 72 72 50 50 50 29 29 29 10 10 10 4										90-130° 3402 39.1 45.7			
2000 105° 301 682 748 764 757 720							1 77 73 70 69 66 63 60 59 43 42 41 25 24 23 9 9 9 4										90-150° 5907 67.9 77.9			
1500 115° 549 980 1252 1295 1304 1105							2 70 64 60 55 60 55 51 48 38 36 34 23 22 20 9 8 8 3										90-180° 7134 82.0 97.4			
1000 125° 789 1150 1628 1747 1760 1295							3 64 56 50 46 54 48 44 40 34 31 28 20 19 18 8 7 7 3										0-180° 7412 85.2 100.0			
500 135° 1011 1298 1702 2034 2113 1269							4 58 51 42 39 50 43 38 31 30 27 24 19 18 15 6 6 5 2										 3 LAMP T8 SOLID			
145° 1201 1413 1710 1961 2054 1054							5 53 44 38 33 45 38 33 29 26 23 20 16 14 12 6 5 5 2													
155° 1349 1484 1682 1845 1905 769							6 47 39 35 29 40 33 28 25 23 22 19 15 14 13 5 5 4 1													
165° 1453 1516 1616 1704 1739 454							7 45 35 29 25 39 31 25 22 21 18 15 13 12 10 4 4 3 1													
175° 1501 1507 1527 1547 1562 151							8 42 32 26 21 36 28 22 19 19 16 15 12 9 7 4 4 3 1													
180° 1505 1505 1505 1505 1505							9 39 29 23 19 33 25 20 17 18 15 12 10 9 8 3 3 2 0													
							10 36 26 21 18 31 23 18 15 16 13 11 9 8 7 2 2 1 0													

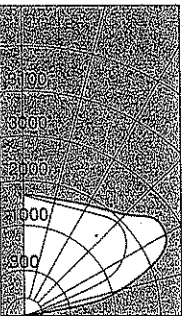
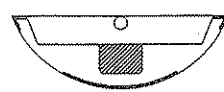
CANDELA DISTRIBUTION SUMMARY							COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20								ZONAL LUMEN SUMMARY											
							RCC	.80			.70			.50		.30		.10		0	0-90'			0	0	0
ANGLE							RW	.7 .5 .3 .1			.7 .5 .3 .1			.5 .3 .1		.5 .3 .1		.5 .3 .1			90-120'			3452	27.4	28.6
90°																					90-130'			4813	38.2	45.7
95°																					90-150'			8517	67.6	77.1
105°																					90-180'			10206	81.0	96.2
115°																					0-180'			14499	86.9	100.0
125°																										
135°																										
145°																										
155°																										
165°																										
175°																										
180°																										
FLUX							RCR																			
							0	84 84 84 84			72 72 72 72			49 49 49		29 29 29		10 10 10		4						
							1	76 73 70 65			65 62 60 58			43 42 41		25 24 21		9 9 8		4						
							2	69 63 60 59			59 54 50 48			38 35 33		23 22 21		9 9 8		3						
							3	63 56 50 46			49 43 37 33			29 26 25		18 17 14		7 7 6		3						
							4	57 48 42 37			48 42 37 33			29 26 24		18 17 16		7 6 6		2						
							5	53 43 37 33			45 38 32 29			26 23 20		16 14 13		6 6 5		2						
							6	49 39 33 28			41 34 29 25			24 20 19		14 13 12		5 5 4		1						
							7	45 35 29 25			38 30 25 21			21 19 15		13 12 11		5 4 4		1						
							8	41 33 25 24			35 27 21 17			19 16 13		11 9 7		5 4 3		1						
							9	38 29 23 19			33 25 20 16			17 14 12		10 9 7		3 3 2		0						
							10	36 26 20 16			31 23 18 13			16 13 11		9 7 6		2 2 2		0						

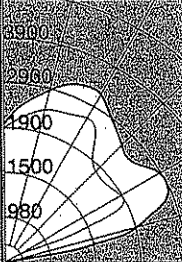
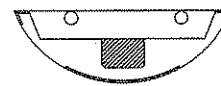


2 LAMP BIAx SOLID

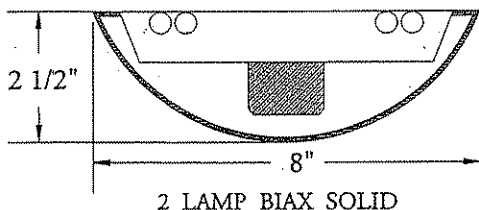


## FIXTURE PERFORMANCE

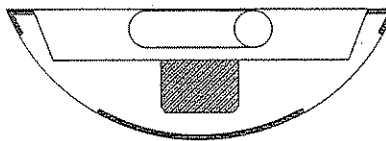
	CANDELA DISTRIBUTION SUMMARY							COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20							ZONAL LUMEN SUMMARY			
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80	.70	.50	.30	.10	0	ZONE	LUMENS	%LAMP	%FIXT
	90°	0	0	0	0	0	0	RW	.7 .5 .3 .1	.7 .5 .3 .1	.5 .3 .1	.5 .3 .1	.5 .3 .1	0	0-90°	0	0	0
	95°	31	297	360	315	286	325	RCR							90-120°	1458	29.2	34.5
	105°	160	474	909	1125	1179	841	0	90 90 90 90	77 77 77 77	52 52 52	31 31 31	11 10 9	4	90-130°	2199	44.0	52.2
	115°	313	525	926	1316	1408	899	1	82 78 75 72	70 67 65 60	46 45 43	28 26 25	8 8 8	3	90-150°	3680	73.6	80.1
	125°	460	582	854	1110	1218	765	2	75 69 61 59	64 59 55 51	41 38 36	24 22 20	7 7 7	2	90-180°	4423	88.5	99.9
	135°	589	675	836	1005	1075	651	3	67 60 54 49	57 52 47 43	36 33 30	21 20 17	6 6 6	2	0-180°	4675	93.7	100.0
	145°	699	741	830	921	975	525	4	62 53 46 41	53 46 40 36	32 28 26	19 17 16	6 6 5	1	 1 LAMP T5 PERF			
	155°	779	805	848	892	908	393	5	57 47 40 35	49 41 35 31	29 25 22	17 15 13	5 5 4	1				
165°	836	847	850	863	869	245	6	51 42 35 30	44 36 31 26	24 22 19	15 14 13	5 4 4	0					
175°	861	866	860	858	856	95	7	48 37 29 20	40 32 25 25	23 21 20	15 12 11	5 4 4	0					
180°	860	860	860	860	860		8	44 34 27 23	37 30 24 20	20 17 15	12 10 9	4 4 3	0					
							9	41 32 25 22	34 27 20 18	19 14 12	11 9 8	3 3 2	0					
							10	38 28 22 18	33 24 19 16	16 14 12	10 9 6	2 2 1	0					

	CANDELA DISTRIBUTION SUMMARY							COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20							ZONAL LUMEN SUMMARY				
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80	.70	.50	.30	.10	0	ZONE	LUMENS	%LAMP	%FIXT	
	90°	0	0	0	0	0	0	RW	.7 .5 .3 .1	.7 .5 .3 .1	.5 .3 .1	.5 .3 .1	.5 .3 .1	0	0-90°	0	0	0	
	95°	69	461	502	500	469	503	RCR	0	91 91 91 91	77 77 77 77	53 53 53	31 31 31	11 10 10	4	90-120°	3127	31.1	34.5
	105°	348	826	1463	1717	1778	1332	1	73 79 74 71	71 68 65 62	46 45 44	27 25 24	9 8 8	4	90-130°	4600	46.0	52.2	
	115°	682	1173	1553	2117	2307	1564	2	74 69 63 59	64 59 55 51	41 38 36	24 22 21	7 7 7	3	90-150°	7469	73.7	80.1	
	125°	995	1505	1789	1990	2090	1533	3	66 60 54 49	58 52 47 43	36 33 30	21 20 17	7 6 6	2	90-180°	8909	88.1	99.9	
	135°	1272	1683	2063	2210	2285	1495	4	63 52 46 41	53 46 40 36	31 28 25	20 17 16	6 5 5	2	0-180°	9549	94.5	100.0	
	145°	1505	1800	2168	2378	2432	1300	5	56 47 37 35	50 41 35 31	28 25 22	17 16 14	5 5 4	2	 2 LAMP T5 PERF				
	155°	1685	1871	2102	2274	2355	961	6	53 42 34 30	45 35 30 27	25 24 23	15 13 12	5 4 4	1					
	165°	1803	1887	2002	2081	2119	564	7	48 38 31 26	41 33 26 23	22 19 17	15 12 10	4 4 4	1					
	175°	1857	1872	1879	1890	1893	188	8	45 33 27 23	38 30 24 20	21 17 15	13 11 10	3 3 2	1					
180°	1858	1858	1858	1858	1858		9	42 31 26 17	35 27 21 18	17 15 12	11 10 8	3 2 2	0						
								10	38 28 20 16	33 24 19 15	17 13 10	10 7 6	2 2 1	0					

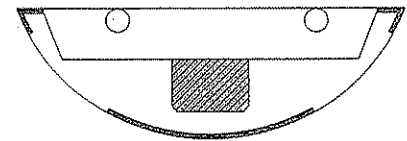
## FIXTURE PROFILES



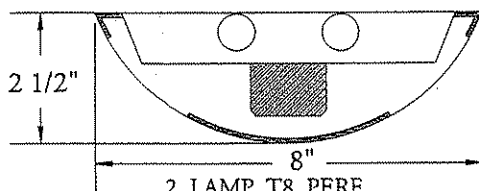
2 LAMP BIAx SOLID



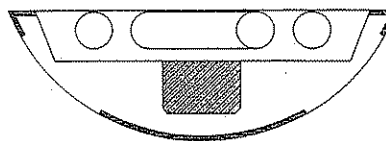
1 LAMP T8 PERF



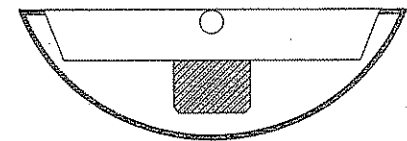
2 LAMP T5HO PERF



2 LAMP T8 PERF

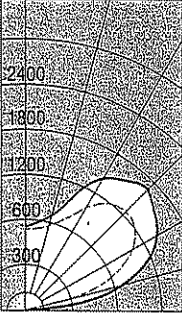



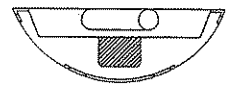
3 LAMP T8 PERF



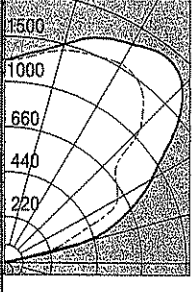
1 LAMP T5HO SOLID

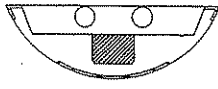
# BEAM PERFORMANCE

	CANDELA DISTRIBUTION SUMMARY							COEFFICIENT OF UTILIZATION - Zonal Cavity Method (FCI = 0.20)								ZONAL LUMEN SUMMARY										
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC		.80		.70		.50		.30		.10		0						
								RW		.7	.5	.3	.1	.5	.3	.1	.5	.3	.1	0						
								RCR																		
	90°	2	15	33	47	52		0	84	84	84	84	72	72	72	49	49	49	28	28	28	9	9	9	4	
	95°	24	97	126	142	147	124	1	77	73	70	67	65	63	60	58	43	41	40	25	24	23	8	8	8	3
	105°	117	243	320	363	374	306	2	70	64	59	55	59	55	51	47	37	35	33	22	20	19	7	7	6	2
	125°	331	396	510	577	601	437	3	63	56	50	45	54	48	43	39	33	30	28	19	17	16	6	6	5	2
	135°	424	464	548	614	635	416	4	58	49	43	38	49	42	37	33	29	26	23	17	15	14	5	5	5	1
	145°	502	524	578	622	639	360	5	53	44	37	32	45	37	32	28	26	22	20	15	13	12	5	5	5	1
	155°	562	574	602	626	635	277	6	49	39	32	28	41	33	28	24	23	20	17	13	12	10	5	4	4	0
	165°	602	607	619	628	630	176	7	45	35	28	24	38	30	25	21	21	17	15	12	10	9	5	4	4	0
	175°	623	623	627	626	625	60	8	41	31	25	21	35	27	22	18	19	15	13	11	9	8	4	4	3	0
	180°	626	626	626	626	626		9	38	28	22	18	32	24	19	16	17	14	11	10	8	7	3	3	2	0
								10	35	26	20	16	30	22	17	14	15	12	10	9	7	6	2	2	2	0
																										
								1 LAMP T8 PERF																		

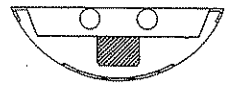


1 LAMP T8 PERF

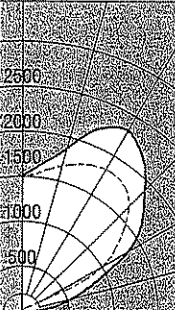
	CANDELA DISTRIBUTION SUMMARY							COEFFICIENT OF UTILIZATION - Zonal Cavity Method (FCI = 0.20)							ZONAL LUMEN SUMMARY			
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80	.70	.50	.30	.10	0	ZONE	LUMENS	%LAMP	%FIXT
								RW	.7 .5 .3 .1	.7 .5 .3 .1	.5 .3 .1	.5 .3 .1	.5 .3 .1	0	0-90°	0	0	0
1500	90°	0	0	0	0	0		RCR							90-120°	1589	27.4	34.1
1000	95°	26	143	98	112	83	125	0	79 79 79 79	68 68 68 68	48 48 48	27 27 27	11 11 11	4	90-130°	2499	43.1	54.2
660	105°	150	512	653	677	620	588	1	72 69 64 63	62 60 59 55	41 40 39	25 24 23	11 11 10	4	90-150°	3949	68.1	82.5
440	115°	315	615	996	1180	1200	875	2	65 60 58 51	56 52 50 49	36 33 32	21 20 19	10 9 9	3	90-180°	4779	82.4	100.0
220	125°	477	697	1069	1331	1397	905	3	60 57 53 48	49 46 41 36	31 28 26	19 18 16	8 8 7	3	0-180°	4779	82.4	100.0
	135°	626	789	1045	1259	1360	792	4	55 47 41 36	47 40 35 32	29 26 23	17 15 14	7 7 6	2				
	145°	757	866	1030	1173	1244	640	5	50 41 35 31	43 36 31 27	25 22 19	15 13 12	7 6 5	2				
	155°	860	929	1022	1104	958	438	6	46 37 31 27	39 32 27 22	21 18 16	13 11 10	6 6 5	1				
	165°	930	959	1005	1035	1054	285	7	40 31 25 21	34 27 22 19	19 16 14	12 10 9	5 5 4	1				
	175°	970	971	975	974	980	95	8	37 28 22 18	32 24 19 16	17 14 12	11 9 7	5 4 3	1				
	180°	966	966	966	966	966		9	34 25 20 16	29 22 17 14	16 13 10	10 9 7	4 3 2	0				
								10	32 23 18 14	27 20 15 12	14 11 9	9 7 6	2 2 2	0				

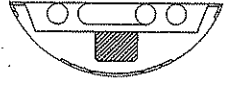


2 LAMP T8 PERF

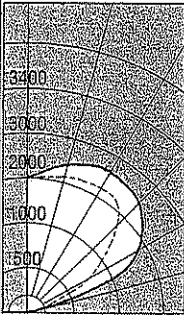


2 LAMP T8 PERF

	CANDELA DISTRIBUTION SUMMARY							COEFFICIENT OF UTILIZATION - Zonal Cavity Method (FCI = 0.20)							ZONAL LUMEN SUMMARY			
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC RW	.80 .7 .5 .3 .1	.70 .7 .5 .3 .1	.50 .5 .3 .1	.30 .5 .3 .1	.10 .5 .3 .1	0 0	ZONE	LUMENS	%LAMP	%FIXT
								RCR										
	90°	3	20	38	45	60	212	0	81 81 81 81	70 70 70 70	49 49 49	29 29 29	12 12 12	4	0-90°	29.6	3.4	4.2
	95°	46	187	195	227	204	212	1	74 70 69 66	67 62 60 57	55 42 40	39 25 25	10 10 10	4	90-120°	2383	27.4	28.6
	105°	301	675	792	793	746	740	2	68 66 60 56	59 57 55 48	37 36 35	23 22 21	9 9 8	3	90-130°	3323	38.2	45.7
	115°	617	935	1303	1508	1507	1183	3	61 55 50 47	53 47 42 39	33 30 28	20 19 18	8 8 7	3	90-150°	5881	67.6	77.1
	125°	910	1179	1449	1721	1812	1279	4	57 48 42 37	48 42 37 33	29 26 24	18 17 16	7 6 6	2	90-180°	7047	81.0	96.2
	135°	1173	1384	1619	1767	1843	1216	5	52 50 41 35	46 44 38 29	26 25 23	16 15 14	6 6 5	2	0-180°	7317	84.1	100.0
	145°	1395	1571	1720	1870	1913	1068	6	47 39 35 29	40 33 28 25	23 22 19	15 14 13	5 5 4	1				
	155°	1571	1655	1803	1860	1896	816	7	44 42 33 27	37 28 24 21	21 20 19	13 12 11	5 4 4	1				
	165°	1687	1696	1778	1837	1837	503	8	40 39 30 25	35 34 25 19	19 18 16	11 9 7	5 4 3	1				
	175°	1743	1734	1731	1722	1729	166	9	38 36 27 21	33 31 25 19	18 17 15	10 7 5	3 3 2	0				
	180°	1733	1733	1733	1733	1733		10	35 25 21 18	30 29 22 15	16 15 14	9 7 6	2 2 2	0				




3 LAMP T8 PERF

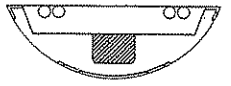
	CANDELA DISTRIBUTION SUMMARY						
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX
	90°	0	18	12	11	8	
	95°	248	780	732	741	733	1542
	105°	575	1210	1815	1652	1581	2889
	115°	915	1476	2272	2686	2741	3215
	125°	1215	1701	2359	2810	3026	3719
	135°	1485	1910	2407	2782	2940	3169
	145°	1690	2049	2361	2649	2727	2522
	155°	1850	2099	2327	2460	2511	1260
	165°	1935	1998	2165	2269	2280	819
175°	1946	2010	2172	2281	2285	832	
180°	1962	1962	1962	1962	1962		

COEFFICIENT OF UTILIZATION - Zonal Cavity Method (FCI = 0.20)							
RCC	.80	.70	.50	.30	.10	0	
RW	.7 .5 .3 .1	.7 .5 .3 .1	.5 .3 .1	.5 .3 .1	.5 .3 .1	0	
RCR							
0	80 80 80 80	69 69 69 69	47 47 47	28 28 28	10 10 10	4	
1	73 70 69 66	63 60 58 54	41 40 39	25 24 21	9 9 9	4	
2	66 61 56 52	58 52 49 47	36 36 34	23 22 21	8 7 7	3	
3	62 53 46 45	52 46 42 39	32 29 27	20 18 16	7 6 6	3	
4	55 47 42 39	47 41 36 31	28 25 25	17 16 15	6 6 5	2	
5	52 43 37 29	43 31 28 25	26 23 20	16 15 14	5 5 4	2	
6	46 37 31 27	41 33 27 25	23 22 21	15 14 13	5 4 4	1	
7	43 33 27 22	27 29 22 21	20 19 15	12 11 10	4 4 4	1	
8	40 30 25 20	34 25 21 19	18 15 13	10 9 7	3 3 3	1	
9	37 27 22 18	31 24 19 16	17 16 15	10 9 7	3 3 2	0	
10	34 25 19 16	29 22 17 14	15 14 13	10 8 7	2 2 2	0	

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	%LAMP	%FIXT
0-90°	0	0	0
90-120°	3326	26.4	27.9
90-130°	4561	36.2	44.8
90-150°	8265	65.6	74.5
90-180°	9828	78.0	94.2
0-180°	10672	84.7	100.0



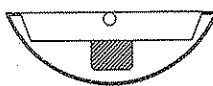
2 LAMP BIAx PERF

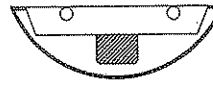


2 LAMP BIAx PERF



## FIXTURE PERFORMANCE

ANGLE	CANDELA DISTRIBUTION SUMMARY						COEFFICIENT OF UTILIZATION - Zonal Cavity Method, pfc = 0.20							ZONAL LUMEN SUMMARY			
	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80	.70	.50	.30	.10	0	ZONE	LUMENS	%LAMP	%FIXT
	90°	0	0	0	0	0	RW	.7	.5	.3	.1	.5	.3	0-90°	0	0	0
95°	31	297	360	315	286	325	RCR	0	90	90	90	90	90	90-120°	1460	29.2	34.5
105°	160	474	910	1125	1179	841	1	82	79	75	72	70	67	90-130°	2200	44.0	52.2
115°	313	525	926	1316	1410	899	2	75	69	62	60	64	59	90-150°	3680	73.6	80.1
125°	460	582	854	1110	1220	769	3	68	60	54	49	58	52	90-180°	4425	88.5	99.9
135°	589	675	836	1005	1075	651	4	62	53	46	41	53	46	0-180°	4685	93.7	100.0
145°	699	742	830	921	975	525	5	57	47	40	35	49	41				
155°	779	805	848	892	908	395	6	52	42	35	30	45	36				
165°	836	847	852	863	869	245	7	48	37	29	20	40	32				
175°	864	866	860	858	856	95	8	45	34	27	23	38	30				
180°	862	862	862	862	862		9	41	32	25	22	34	27				
							10	39	28	22	18	33	24				

ANGLE	CANDELA DISTRIBUTION SUMMARY						COEFFICIENT OF UTILIZATION - Zonal Cavity Method, pfc = 0.20							ZONAL LUMEN SUMMARY			
	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80	.70	.50	.30	.10	0	ZONE	LUMENS	%LAMP	%FIXT
	90°	0	0	0	0	0	RW	.7	.5	.3	.1	.5	.3	0-90°	0	0	0
95°	69	462	502	500	469	503	RCR	0	91	91	91	91	91	90-120°	3130	31.3	34.5
105°	350	826	1464	1717	1778	1335	1	73	79	75	72	71	68	90-130°	4600	46.0	52.2
115°	682	1173	1553	2117	2307	1564	2	75	69	64	59	64	59	90-150°	7470	74.7	80.1
125°	997	1505	1789	1992	2090	1535	3	69	60	54	49	58	52	90-180°	8910	89.1	99.9
135°	1272	1683	2063	2210	2285	1495	4	63	53	47	41	53	46	0-180°	9550	95.5	100.0
145°	1505	1801	2168	2378	2432	1303	5	57	47	37	35	50	41				
155°	1685	1871	2102	2274	2355	961	6	53	42	35	30	45	36				
165°	1803	1889	2002	2081	2120	565	7	49	38	31	26	41	33				
175°	1857	1872	1879	1890	1893	189	8	45	34	28	23	38	30				
180°	1860	1860	1860	1860	1860		9	42	31	26	18	35	27				
							10	38	28	21	17	33	24				

## SPECIFICATIONS

**HOUSINGS:** Constructed of die-formed 18-gauge cold rolled steel

Perforations are 0.018 dia. (standard). 74 holes per square inch

**FINISH:** Baked white enamel

**LAMP SHIELDING:** Fabricated from perforated metal with overlay diffuser

**BALLAST:** 120 Volt, 60Hz, Class P Electronic Standard

**LABELING:** Fixtures are Underwriters Laboratories listed and bear the I.B.E.W., AFL-CIO labels

### OPTIONS:

**PERFORATIONS:** 0.018 holes standard - Add Suffix "PFM". Slotted - 0.250 x .0750 Rectangular openings - Add Suffix "SLT"

**MR DOWNLIGHTS:** Two per 4" section - Add Suffix "MR2"

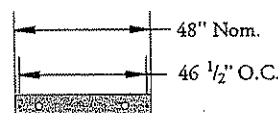
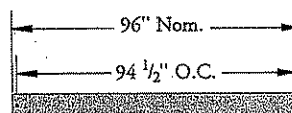
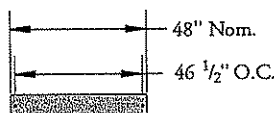
**BALLASTS:** 277 Volt, dimming ballasts available

**MOUNTING:** Pendant 1/2" dia. 18" long standard. AC=Aircraft cable. If different lengths are required, specify "P" or "AC" and required lengths. Example AC-24"

**CONTOURED END CAPS:** Contoured to fit end-of-run housing ends - Use Suffix "CEC"

**FINISH:** Custom paint finishes are available. Please supply color chip

## MOUNTING



MR Downlights

# ORDERING INFO

## ORDERING KEY

S28



CATALOG NUMBER

NUMBER OF LAMPS

TYPE OF LAMPS

PERFORATIONS (SEE SPECIFICATIONS)

OVERALL LENGTH

OPTIONS (SEE SPECIFICATIONS)

SOLID STEEL HOUSING	(NO.) LAMPS	OVERALL NOMINAL FIXTURE LENGTH	PERFORATED STEEL HOUSING	(NO.) LAMPS	OVERALL NOMINAL FIXTURE LENGTH
S-28-1D-1T5-4'	(1) 4'T5	4'	S-28-1D/D-1T5-4'-PFM	(1) 4'T5	4'
S-28-1D-2T5-4'	(2) 4'T5	4'	S-28-1D/D-2T5-4'-PFM	(2) 4'T5	4'
S-28-1D-2T5-8'	(2) 4'T5	8'	S-28-1D/D-2T5-8'-PFM	(2) 4'T5	8'
S-28-1D-4T5-8'	(4) 4'T5	8'	S-28-1D/D-4T5-8'-PFM	(4) 4'T5	8'
S-28-1D-3T5-12'	(3) 4'T5	12'	S-28-1D/D-3T5-12'-PFM	(3) 4'T5	12'
S-28-1D-6T5-12'	(6) 4'T5	12'	S-28-1D/D-6T5-12'-PFM	(6) 4'T5	12'
S-28-1D-1T5HO-4'	(1) 4'T5HO	4'	S-28-1D/D-1T5HO-4'-PFM	(1) 4'T5HO	4'
S-28-1D-2T5HO-4'	(2) 4'T5HO	4'	S-28-1D/D-2T5HO-4'-PFM	(2) 4'T5HO	4'
S-28-1D-2T5HO-8'	(2) 4'T5HO	8'	S-28-1D/D-2T5HO-8'-PFM	(2) 4'T5HO	8'
S-28-1D-4T5HO-8'	(4) 4'T5HO	8'	S-28-1D/D-4T5HO-8'-PFM	(4) 4'T5HO	8'
S-28-1D-3T5HO-12'	(3) 4'T5HO	12'	S-28-1D/D-3T5HO-12'-PFM	(3) 4'T5HO	12'
S-28-1D-6T5HO-12'	(6) 4'T5HO	12'	S-28-1D/D-6T5HO-12'-PFM	(6) 4'T5HO	12'
S-28-1D-1T8-4'	(1) 4'T8	4'	S-28-1D/D-1T8-4'-PFM	(1) 4'T8	4'
S-28-1D-2T8-4'	(2) 4'T8	4'	S-28-1D/D-2T8-4'-PFM	(2) 4'T8	4'
S-28-1D-3T8-4'	(3) 4'T8	4'	S-28-1D/D-3T8-4'-PFM	(3) 4'T8	4'
S-28-1D-2T8-8'	(2) 4'T8	8'	S-28-1D/D-2T8-8'-PFM	(2) 4'T8	8'
S-28-1D-4T8-8'	(4) 4'T8	8'	S-28-1D/D-4T8-8'-PFM	(4) 4'T8	8'
S-28-1D-6T8-8'	(6) 4'T8	8'	S-28-1D/D-6T8-8'-PFM	(6) 4'T8	8'
S-28-1D-3T8-12'	(3) 4'T8	12'	S-28-1D/D-3T8-12'-PFM	(3) 4'T8	12'
S-28-1D-6T8-12'	(6) 4'T8	12'	S-28-1D/D-6T8-12'-PFM	(6) 4'T8	12'
S-28-1D-9T8-12'	(9) 4'T8	12'	S-28-1D/D-9T8-12'-PFM	(9) 4'T8	12'
S-28-1D-2BX40-4'	(2) 40WBX	4'	S-28-1D/D-2BX40-4'-PFM	(2) 40W-BX	4'
S-28-1D-4BX40-4'	(4) 40WBX	4'	S-28-1D/D-4BX40-4'-PFM	(4) 40W-BX	4'
S-28-1D-4BX40-8'	(4) 40WBX	8'	S-28-1D/D-4BX40-8'-PFM	(4) 40W-BX	8'
S-28-1D-8BX40-8'	(8) 40WBX	8'	S-28-1D/D-8BX40-8'-PFM	(8) 40W-BX	8'
S-28-1D-6BX40-12'	(6) 40WBX	12'	S-28-1D/D-6BX40-12'-PFM	(6) 40W-BX	12'
S-28-1D-12BX40-12'	(12) 40WBX	12'	S-28-1D/D-12BX40-12'-PFM	(12) 40W-BX	12'

NOTE: 50 Watt BIAx Fixtures available. Consult Factory

NOTE: 50 Watt BIAx Fixtures available. Consult Factory



Contoured End



National Lighting Company, Inc. 522 Cortlandt Street, Belleville, New Jersey 07109

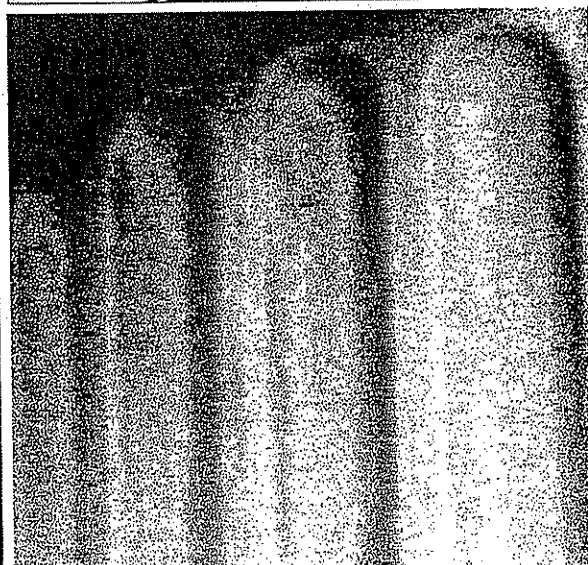
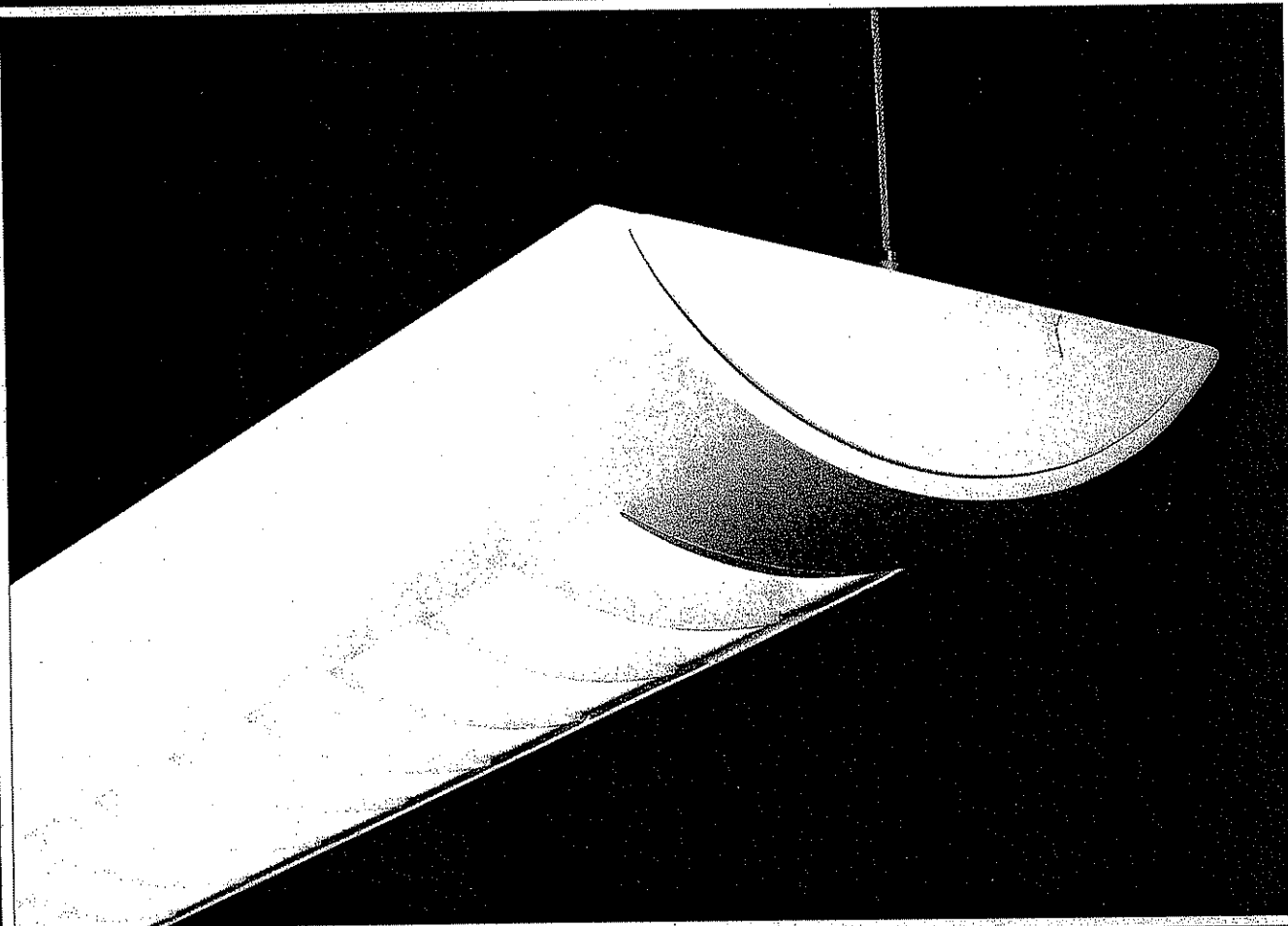
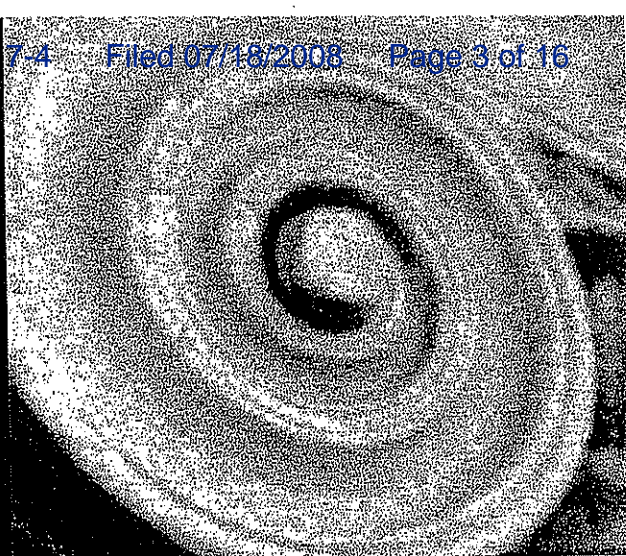
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# SCB 28

S E R I E S



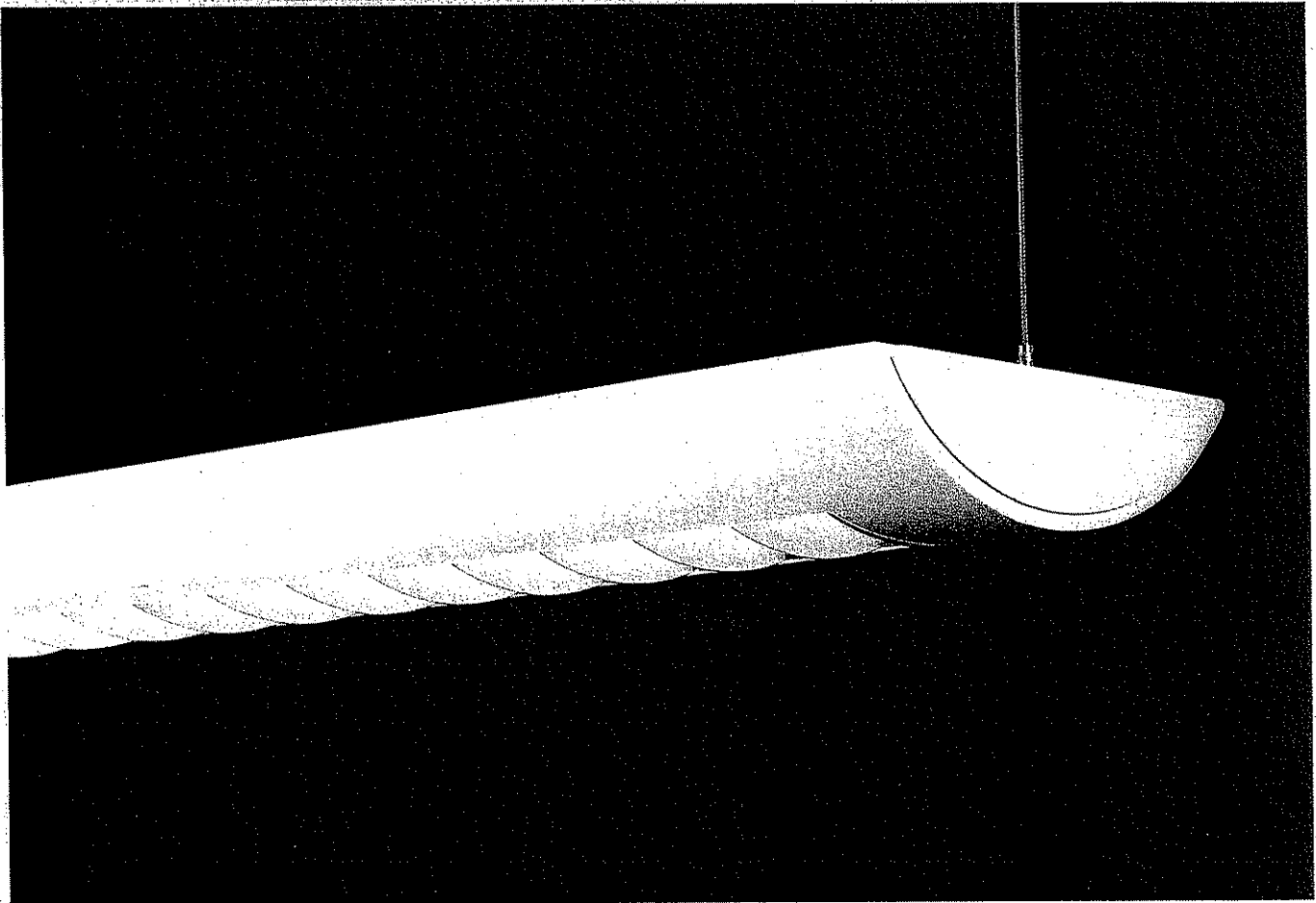
## ***INDIRECT/DIRECT PENDANT MOUNTED***

*The SCB 28 series is designed to provide wide, even illumination with an indirect/direct lighting distribution. A white contoured cross baffle shields lamps at normal viewing angles.*

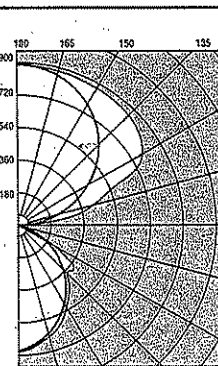
*The reflecting systems are designed for T5, T5HO, T8 and Biax lamps, with wide spacing of fixture rows and even ceiling illuminance.*



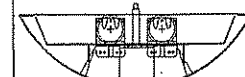
# FIXTURE VIEW



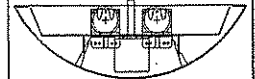
## FIXTURE PERFORMANCE

	CANDELA DISTRIBUTION SUMMARY						
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX
	90°	1	7	10	8	6	
	95°	35	102	110	110	110	112
	105°	179	324	411	416	416	381
	115°	337	438	597	681	707	552
	125°	478	543	688	773	810	588
	135°	604	645	728	800	828	559
	145°	709	734	784	826	843	489
	155°	793	805	832	851	859	383
	165°	850	853	864	870	873	244
	175°	879	877	879	878	878	84
180°	880	880	880	880	880		

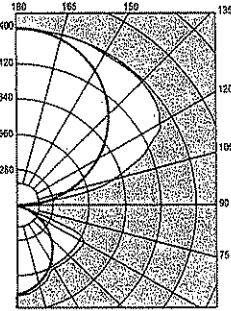
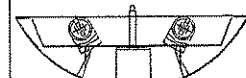
COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20							ZONAL LUMEN SUMMARY			
RCC	.80	.70	.50	.30	.10	0	ZONE	LUMENS	%LAMP	%FIXT
RW	7.5 3.1	7.5 3.1	5.3 1	5.3 1	5.3 1	0	0-30	506	8.9	10.2
ROR							0-40	799	14.0	16.2
0	89 89 89 89	80 80 80 80	63 63 63	48 48 48	34 34 34	27	0-60	1329	23.3	26.9
1	82 78 75 72	73 70 68 65	56 54 53	43 42 41	31 30 29	24	0-90	1549	27.2	31.3
2	75 69 64 60	67 62 58 54	50 47 44	38 36 35	27 25 25	21	90-180	3392	59.5	68.7
3	68 61 55 50	61 55 50 46	44 41 38	34 32 30	25 23 22	18	0-180	4941	85.7	100.0
4	63 54 47 43	56 49 43 39	39 35 32	30 28 26	22 21 19	16				
5	57 48 41 36	51 43 38 33	35 31 28	27 24 22	20 18 17	14				
6	53 43 36 31	47 39 33 29	31 27 24	25 22 19	18 16 15	12				
7	49 38 32 27	44 35 29 25	28 24 21	22 19 17	16 14 13	10				
8	45 35 28 24	40 31 26 22	26 21 18	20 17 15	15 13 11	9				
9	41 31 25 21	37 28 23 19	23 19 16	18 15 13	13 11 10	8				
10	39 28 22 18	35 26 21 17	21 17 14	16 14 11	12 10 9	7				

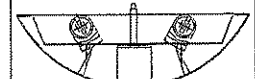


SCB-28-232-T8-18C



SCB-28-232-T8-18C

	CANDELA DISTRIBUTION SUMMARY									
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX			
	90°	4	4	7	4	6				
	95°	51	168	123	79	73	152			
	105°	283	526	689	744	750	647			
	115°	535	731	974	1145	1189	914			
	125°	766	899	1116	1274	1332	972			
	135°	970	1054	1212	1337	1382	923			
	145°	1139	1186	1285	1364	1393	801			
	155°	1268	1290	1345	1382	1396	618			
	165°	1356	1359	1382	1392	1396	390			
	175°	1395	1392	1398	1392	1392	133			
180°	1398	1398	1398	1398	1398					
COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20							ZONAL LUMEN SUMMARY			
RCC	.80	.70	.50	.30	.10	0	ZONE	LUMENS	%LAMP	%FIXT
RW	7.5 3.1	7.5 3.1	5.3 1	5.3 1	5.3 1	0	0-30	527	6.0	7.1
0	85 85 85 85	76 76 76 76	59 59 59	43 43 43	28 28 28	21	0-40	849	9.6	11.4
1	78 75 71 68	69 67 64 62	52 50 48	38 37 36	25 25 24	18	0-60	1525	17.3	20.6
2	71 65 60 56	63 58 54 51	45 43 40	33 32 30	22 21 21	16	0-90	1867	21.2	25.2
3	65 57 52 47	58 51 47 43	40 37 34	30 28 26	20 19 18	14	90-180	5548	63.0	74.8
4	59 51 44 40	53 45 40 36	36 32 29	26 24 22	18 16 15	12	0-180	7416	84.3	100.0
5	54 45 38 34	48 40 35 31	32 28 25	23 21 19	16 14 13	10				
6	50 40 34 29	44 36 30 26	28 24 21	21 18 16	14 13 11	8				
7	46 36 29 25	41 32 27 23	25 21 18	19 16 14	13 11 10	7				
8	42 32 26 22	37 29 24 20	23 19 16	17 14 12	11 10 9	6				
9	39 29 23 19	35 26 21 17	21 17 14	15 13 11	10 9 7	5				
10	36 26 21 17	32 24 19 15	19 15 12	14 11 9	9 8 7	5				
										
							SCB-28-254-T5-18C			



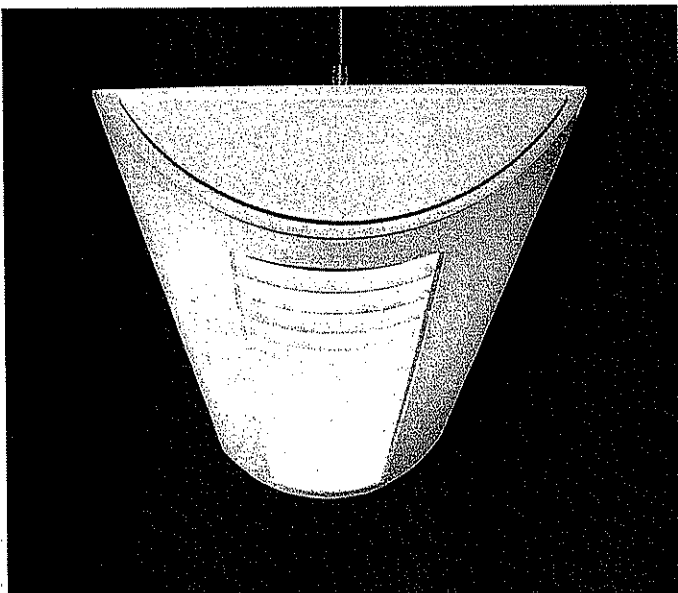
SCB-28-254-T5-18C

**ORDERING KEY****CATALOG NUMBER**

SCB-28

**CATALOG NUMBER****NUMBER OF LAMPS****TYPE OF LAMPS****CROSS BAFFLE****OVERALL LENGTH****VOLTAGE****OPTIONS (SEE SPECIFICATIONS)**

CATALOG NUMBER	(NO) LAMPS	CROSS BAFFLE	OVERALL NOMINAL FIXTURE LENGTH
SCB-28-ID/D	(1) 4' T5	CCB	4'
SCB-28-ID/D	(2) 4' T5	CCB	4'
SCB-28-ID/D	(3) 4' T5	CCB	4'
SCB-28-ID/D	(2) 4' T5	CCB	8'
SCB-28-ID/D	(4) 4' T5	CCB	8'
SCB-28-ID/D	(6) 4' T5	CCB	8'
SCB-28-ID/D	(1) 4' T5HO	CCB	4'
SCB-28-ID/D	(2) 4' T5HO	CCB	4'
SCB-28-ID/D	(3) 4' T5HO	CCB	4'
SCB-28-ID/D	(2) 4' T5HO	CCB	8'
SCB-28-ID/D	(4) 4' T5HO	CCB	8'
SCB-28-ID/D	(6) 4' T5HO	CCB	8'
SCB-28-ID/D	(2) 4' T8	CCB	4'
SCB-28-ID/D	(4) 4' T8	CCB	8'

**FIXTURE VIEW**

## SPECIFICATIONS

**HOUSING:** Constructed of die-formed 18 gauge cold rolled steel.

**FINISH:** Baked white enamel.

**BALLASTS:** 120 Volt, 60 Hertz, Class P Electronic Standard.

**LAMP SHIELDING:** Contoured cross baffle, 2" on center spacing. Baked white enamel finish.

**LABELING:** Fixtures are Underwriters Laboratories listed and bear the I.B.E.W., AFL-CIO labels.

### OPTIONS:

**BALLASTS:** 277 Volt, dimming ballasts available.

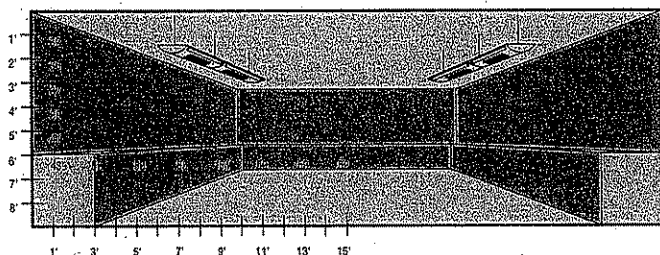
**MOUNTING:** Pendant - 1/2" dia., 18" long, standard. "P"=Pendent, "AC"=Aircraft cable. If different lengths are required, specify "P" or "AC" and required length. Example: "AC-24."

**CROSS BAFFLE OVERLAY:** White overlay diffuser, mounted over cross baffle, suffix "WO"

**CONTOURED END CAPS:** Contoured to fit end of run fixtures. Use suffix "CEC".

**FINISH:** Custom paint finishes are available. Please supply color chip.

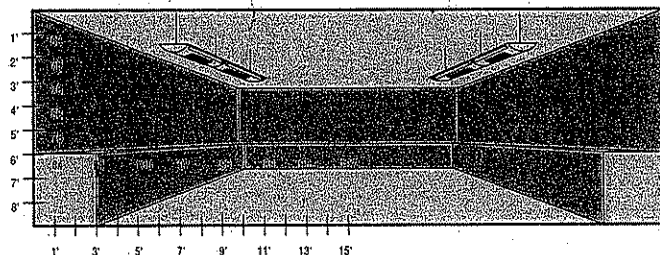
## ROOM VIEW



**FIXTURE:** SCB-28-232T8-18C

**ROOM:** 30'X20'X8'-6" WITH 80-50-20 REFLECTANCES

**NOTE:** VALUES ARE INITIAL ILLUMINANCE

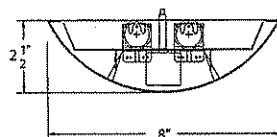


**FIXTURE:** SCB-28-254-T5-8C

**ROOM:** 30'X20'X8'-6" WITH 80-50-20 REFLECTANCES

**NOTE:** VALUES ARE INITIAL ILLUMINANCE

## FIXTURE PROFILE



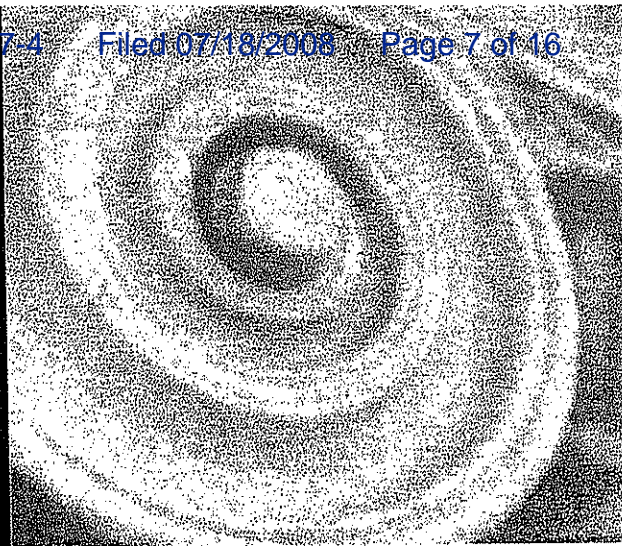
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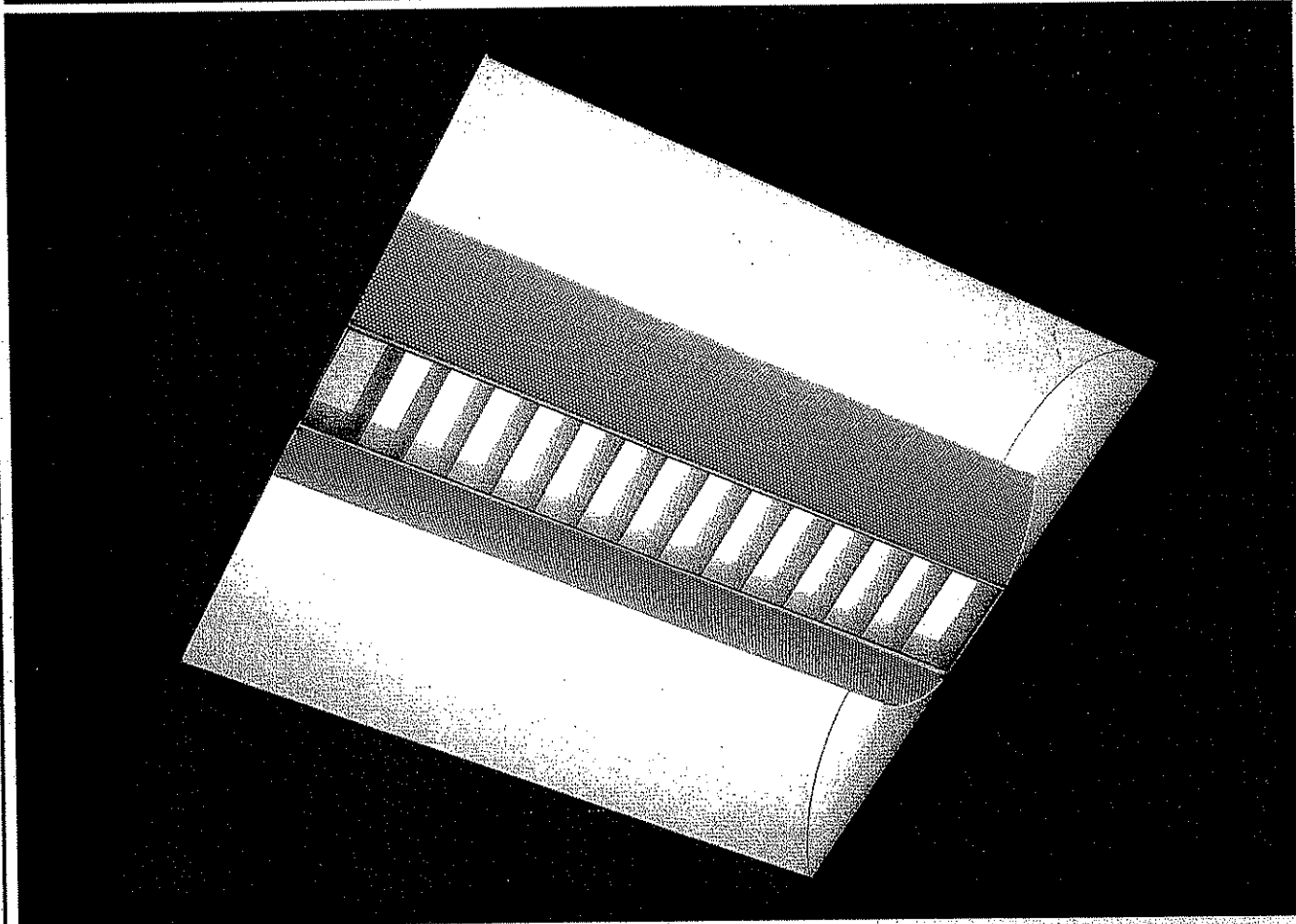
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# AST-22 CB/PX S E R I E S



#4

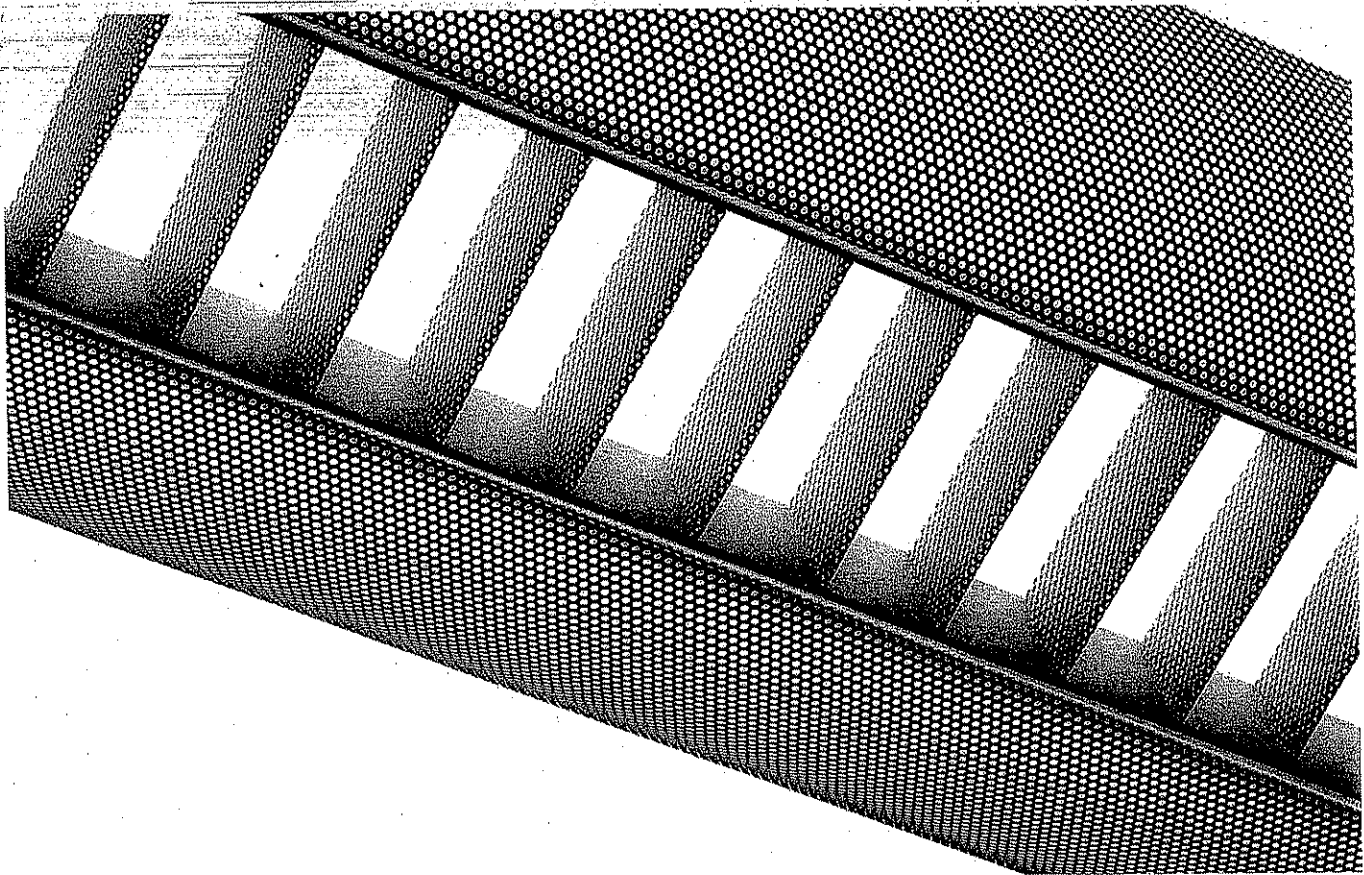


## **INDIRECT/DIRECT RECESSED**

*The AST-22/CB/PX is a recessed fixture designed to provide a combination of direct and indirect lighting. A perforated louver conceals the lamp utilized for direct lighting. The reflecting system is computer designed to assure effective glare control. The AST-22/CB/PX is ideal for lobbies, conference rooms and large open areas, where the fixture may be viewed directly and complete lamp shielding is a requirement. Fixtures utilizing biax and T8 lamps are available.*

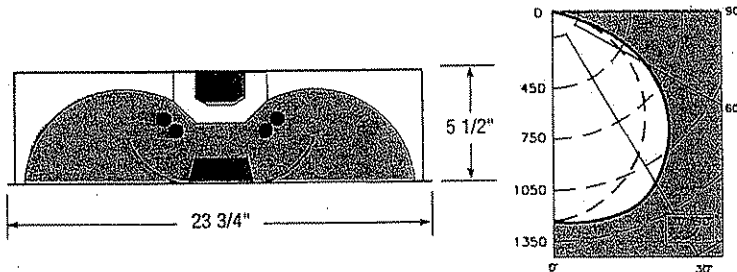


## FIXTURE VIEW



## FIXTURE PERFORMANCE

## AST-22/CB/PX-240BX-PFM

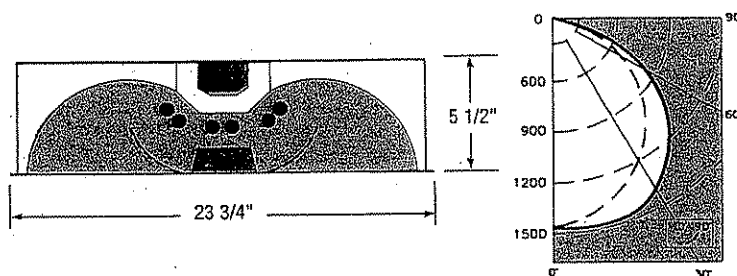


## COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pcf = 0.20

pCC	.80			.70			.50			.30			.10			0
pW	.7	.5	.3	.1	.7	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	0
RCR																
0	60	60	60	60	58	58	58	58	56	56	56	53	53	53	51	50
1	55	53	51	49	54	52	50	48	50	48	47	48	47	46	46	44
2	51	47	44	41	49	46	43	40	44	42	40	42	40	39	41	39
3	46	42	38	35	45	41	37	34	39	36	34	38	35	33	37	34
4	43	37	33	30	41	36	32	29	35	32	29	34	31	29	33	30
5	39	33	28	25	38	32	28	25	31	27	25	30	27	24	29	26
6	36	29	25	22	35	29	25	22	28	24	21	27	24	21	26	23
7	33	26	22	19	32	26	22	19	25	21	19	24	21	18	24	21
8	30	23	19	16	30	23	19	16	22	19	16	22	18	16	21	18
9	28	21	17	14	27	21	17	14	20	16	14	20	16	14	19	16
10	26	19	15	12	25	19	15	12	18	15	12	18	15	12	17	14

Number of Lamps: 2 Lumens per Lamp: 3150 Ballast Factor: 1.00

## AST-24/CB/PX-340BX-PFM



## COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pcf = 0.20

pCC	.80			.70			.50			.30			.10			0
pW	.7	.5	.3	.1	.7	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	0
RCR																
0	47	47	47	47	46	46	46	46	44	44	44	42	42	42	40	39
1	43	42	40	39	42	41	39	38	39	38	37	38	37	36	36	35
2	40	37	35	32	39	36	34	32	35	33	31	34	32	31	32	31
3	37	33	30	28	36	32	30	27	31	29	27	30	28	26	29	27
4	34	29	26	24	33	29	26	24	28	25	23	27	25	23	26	24
5	31	26	23	20	30	26	23	20	25	22	20	24	22	20	23	21
6	28	23	20	18	28	23	20	18	22	20	17	22	19	17	21	19
7	26	21	18	15	26	21	18	15	20	17	15	20	17	15	19	17
8	24	19	16	13	24	19	16	13	18	15	13	18	15	13	17	15
9	22	17	14	12	22	17	14	12	16	14	12	16	13	12	16	13
10	21	16	12	10	20	15	12	10	15	12	10	15	12	10	14	12

Number of Lamps: 2 Lumens per Lamp: 3150 Ballast Factor: 1.00

**SPECIFICATIONS**

**HOUSING:** Constructed of die-formed 20 gauge cold rolled steel.

**REFLECTOR:** Die-formed from 20 gauge steel, baked white enamel finish. 87% reflectance.

**FINISH:** Baked white enamel.

**BALLASTS:** 120 volt, 60 hertz, class P, electronic standard.

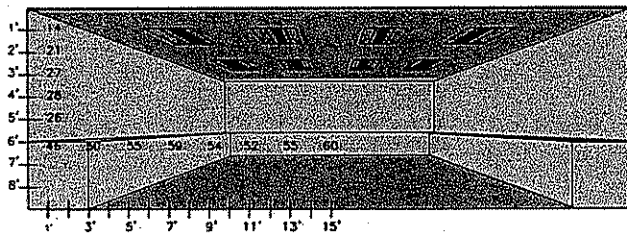
**LAMP SHIELDING:** Fabricated from perforated metal. 74 holes per square inch. Perforations 0.081 dia. holes with white overlay acrylic diffuser.

**LAMPS:** 40 Watt or 50 Watt bi-x (by others)

**LABELING:** Fixtures are Underwriters Laboratories listed and bear the I.B.E.W., AFL-CIO label.

**OPTIONS:**

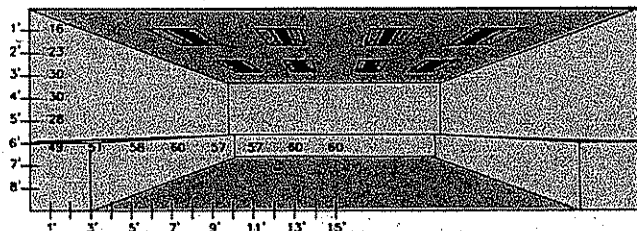
**BALLASTS:** 277 volt, electronic and dimming ballasts available. Please specify.

**ROOM VIEW**

**FIXTURE:** AST-22/CB/PX-240BX-PFM

**ROOM:** 30'x20'x8'-6" WITH 80-50-20 REFLECTANCES.

**NOTE:** Values are initial illuminance. Fixtures are on 8' x 6' Centers



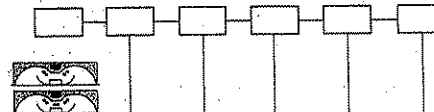
**FIXTURE:** AST-22/CB/PX-340BX-PFM

**ROOM:** 30'x20'x8'-6" WITH 80-50-20 REFLECTANCES.

**NOTE:** Values are initial illuminance. Fixtures are on 8' x 6' Centers

**ORDERING KEY****CATALOG NUMBER**

AST/CB-22-340BX-PFM/PX  
 AST/CB-24-640BX-PFM/PX

**NUMBER OF LAMPS**

3-3 Lamps  
 6-6 Lamps

**LAMP WATTAGE**

40-40BX  
 50-50BX

**LAMP SHIELDING**

PFM/PX 0.081 dia holes (74 holes per sq inch)  
 with matte white overlay and perforated cross blade

**CEILING TYPE**

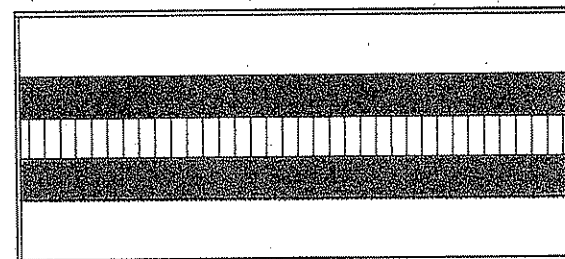
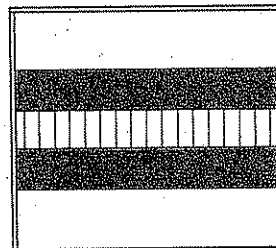
T - Exposed T-bar  
 F - Flanged application

**VOLTAGE**

120V-120 Volt  
 277V-277 Volt

**NOTE:**

2x2 fixtures are available with 3 biax lamps  
 2x4 fixtures are available with 6 biax lamps

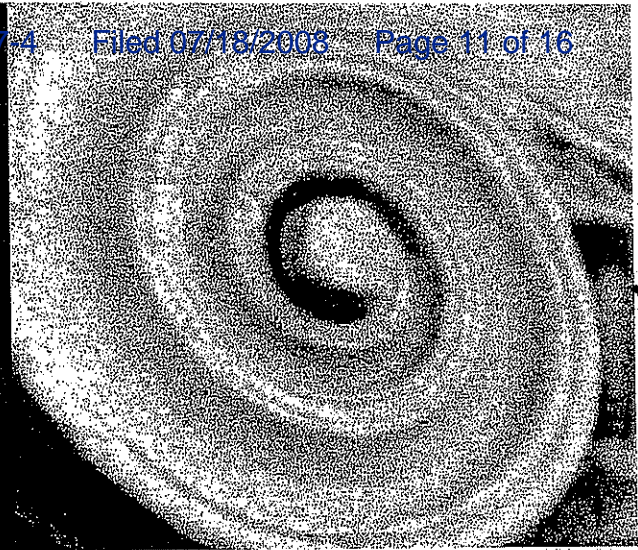
**PLAN VIEW**

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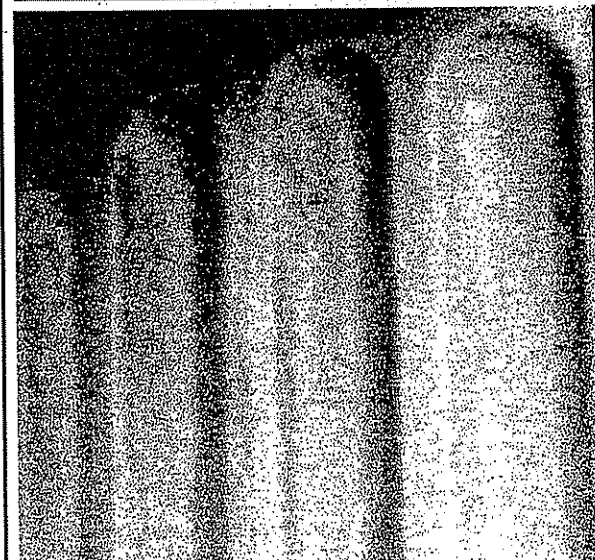
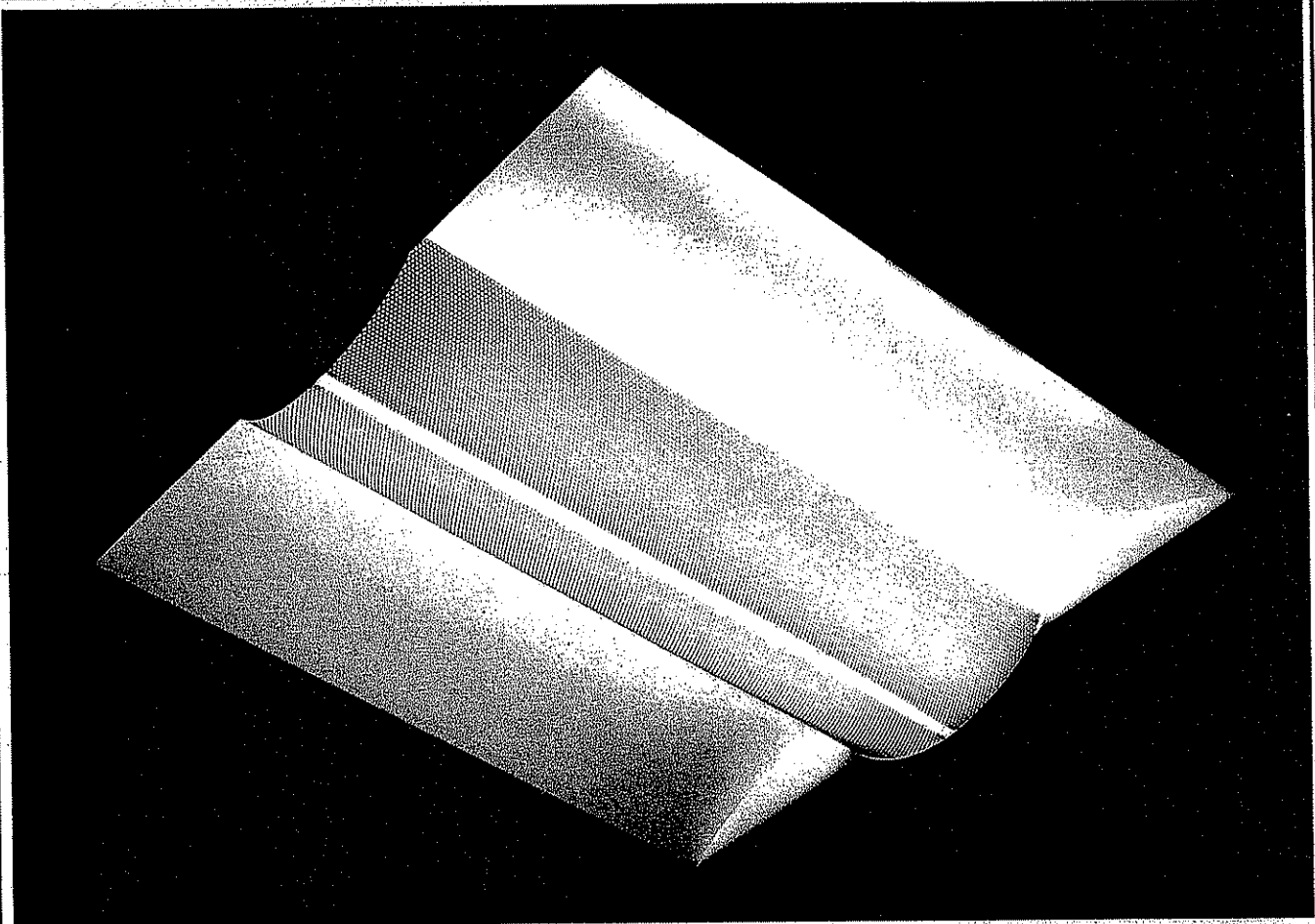


# SR-AST/CB

## S E R I E S S



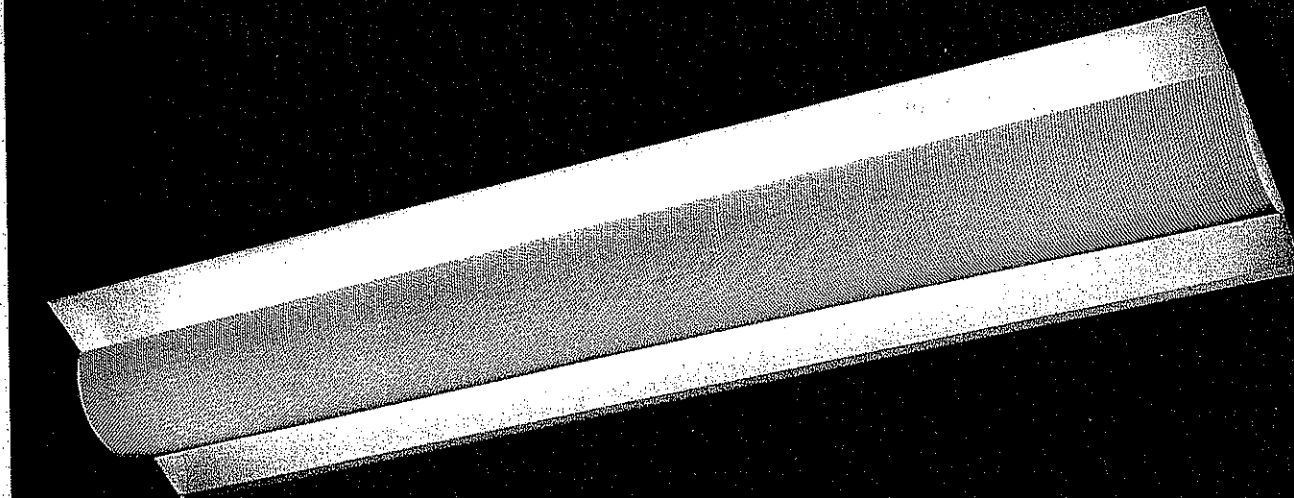
#5



### **INDIRECT/DIRECT SEMI-RECESSED**

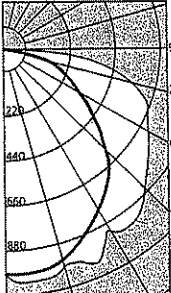
*The AST semi-recessed series was developed for areas that have limited plenum depth. The recessed portion of the housing is only 2-5/16" deep. The compact optical system distributes light evenly with soft, glare-free illumination. This fixture series is ideal for lobbies, conference rooms and large open areas where fixtures may be viewed directly, and complete lamp shielding is a requirement. Fixtures utilizing Biac, T5 and T5HO lamps are available.*





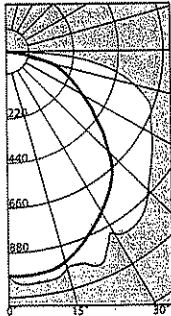

SB 1 Piece Basket Shown

## PHOTOMETRIC DATA

	CANDELA DISTRIBUTION SUMMARY						COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20											ZONAL LUMEN SUMMARY																		
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80				.70				.50				.30				.10				0				ZONE	LUMENS	%LAMP	%FIXT
								RW	.7	.5	.3	.1	.7	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	0							
	0°	900	900	900	900	900		RCR																							0-30	796	12.6	23.1		
	5°	890	897	898	899	898	85	0	65	65	65	65	63	63	63	63	61	61	61	58	58	58	56	56	56	54					0-40	1320	21.0	38.4		
	15°	853	863	867	874	877	245	1	59	56	53	51	57	55	52	50	52	50	49	50	49	47	48	47	46	45					0-60	2434	38.6	70.7		
	25°	782	796	813	831	835	375	2	53	48	44	41	52	47	44	41	45	42	40	43	41	39	42	40	38	36					0-90	3433	54.5	99.7		
	35°	680	699	737	770	782	460	3	48	42	38	34	47	42	37	34	40	36	33	38	35	32	37	34	32	31					90-180	10	0.2	0.3		
	45°	548	581	644	692	709	492	4	44	37	32	29	43	37	32	28	35	31	28	34	30	28	33	30	27	26					0-180	3443	54.7	100.0		
	55°	398	454	543	617	644	478	5	40	33	28	24	39	32	27	24	31	27	23	30	26	23	29	26	23	22										
	65°	242	326	453	541	570	427	6	37	29	24	21	36	29	24	20	28	23	20	27	23	20	26	22	20	19										
	75°	121	212	347	431	460	337	7	34	26	21	18	33	26	21	18	25	21	17	24	20	17	23	20	17	16										
	85°	36	80	144	171	172	141	8	31	24	19	15	30	23	18	15	22	18	15	22	18	15	21	17	15	14										
	90°	0	11	35	60	70		9	29	21	16	13	28	21	16	13	20	16	13	19	16	13	19	15	13	12										
								10	27	19	15	12	26	19	14	11	18	14	11	18	14	11	17	14	11	10										



2-40W BIAX LAMP

	CANDELA DISTRIBUTION SUMMARY						COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20											ZONAL LUMEN SUMMARY								
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80		.70		.50		.30		.10		0	ZONE	LUMENS	%LAMP	%FIXT			
								RW	.7	.5	.3	.1	.7	.5	.3	.1	.5	.3	.1	0						
	0°	900	900	900	900	900		RCR												0-30	796	12.6	23.1			
	5°	890	897	898	899	898	85	0	65	65	65	65	63	63	63	63	61	61	61	58	58	58	56	56	56	54
	15°	853	863	867	874	877	245	1	59	56	53	51	57	55	52	50	52	50	49	50	49	47	48	47	46	45
	25°	782	796	813	831	835	375	2	53	48	44	41	52	47	44	41	45	42	40	43	41	39	42	40	38	36
	35°	680	699	737	770	782	460	3	48	42	38	34	47	42	37	34	40	36	33	38	35	32	37	34	32	31
	45°	548	581	644	692	709	492	4	44	37	32	29	43	37	32	28	35	31	28	34	30	28	33	30	27	26
	55°	398	454	543	617	644	478	5	40	33	28	24	39	32	27	24	31	27	23	30	26	23	29	26	23	22
	65°	242	326	453	541	570	427	6	37	29	24	21	36	29	24	20	28	23	20	27	23	20	26	22	20	19
	75°	121	212	347	431	460	337	7	34	26	21	18	33	26	21	18	25	21	17	24	20	17	23	20	17	16
	85°	36	80	144	171	172	141	8	31	24	19	15	30	23	18	15	22	18	15	22	18	15	21	17	15	14
	90°	0	11	35	60	70		9	29	21	16	13	28	21	16	13	20	16	13	19	16	13	19	15	13	12
								10	27	19	15	12	26	19	14	11	18	14	11	18	14	11	17	14	11	10
																										
4- 40W BIAx LAMP																										



4-40W BIAX LAMP

## SPECIFICATIONS

**HOUSING:** To be die-formed from 20 gauge cold rolled steel.

**REFLECTOR:** To be die-formed from 20 gauge cold rolled steel, baked white enamel finish, with 89% reflectance.

**BALLAST:** 120 Volt, 60 Hertz, Class P, Electronic standard.

**LAMP SHIELDING:** Fabricated from perforated metal, .74 holes per square inch. Perforations 0.081 diameter with white overlay acrylic diffuser.

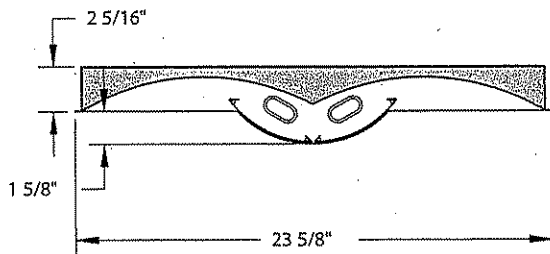
**LAMPS:** Biax, T5, T5HO By others.

**LABELING:** Fixtures are Underwriters Laboratories listed and bear the I.B.E.W., AFL-CIO label.

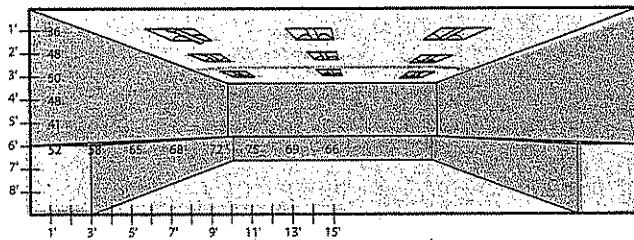
### OPTIONS:

**BALLASTS:** 277 Volt, dimming ballasts available. Please specify.

## FIXTURE DIMENSIONS



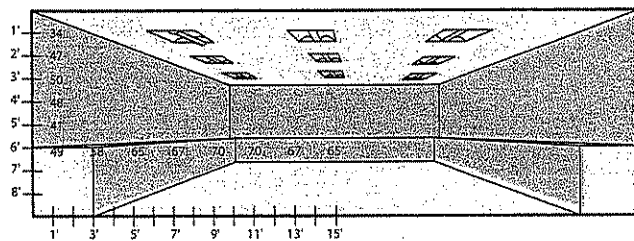
## ILLUMINATION



FIXTURE: SR-AST-CB-22-240-BX-PFM, 6' X 6' ON CENTER

ROOM: 30'X20'X8'-6" WITH 80-50-20 REFLECTANCES..

NOTE: VALUES ARE INITIAL ILLUMINANCE.



FIXTURE: SR-AST-CB-24-440-BX-PFM, 8' X 8' ON CENTER

ROOM: 30'X20'X8'-6" WITH 80-50-20 REFLECTANCES.

NOTE: VALUES ARE INITIAL ILLUMINANCE.

**ORDERING KEY**

SR-AST/CB

CATALOG NUMBER

SIZE OF FIXTURE

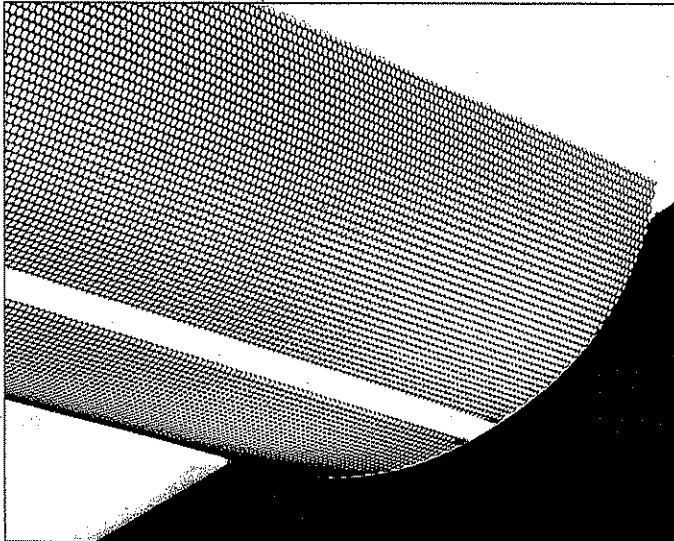
NUMBER OF LAMPS

TYPE OF LAMPS AND WATTAGE

PERFORATED METAL

VOLTAGE - 120V OR 277V

CATALOG NUMBER		FIXTURE	(NO.) LAMPS	PFM	VOLTAGE
SR-AST/CB	2X2	(2) 40 Biax	PFM		
SR-AST/CB	2X2	(2) 50 Biax	PFM		
SR-AST/CB	2X2	(2) T5 (14W)	PFM		
SR-AST/CB	2X2	(2) T5HO (24W)	PFM		
SR-AST/CB	2X4	(2) 40 Biax	PFM		
SR-AST/CB	2X4	(2) 50 Biax	PFM		
SR-AST/CB	2X4	(2) T5 (28W)	PFM		
SR-AST/CB	2X4	(2) T5HO (54W)	PFM		
SR-AST/CB	1X4	(2) 40 Biax	PFM		
SR-AST/CB	1X4	(2) 50 Biax	PFM		
SR-AST/CB	1X4	(2) T5 (28W)	PFM		
SR-AST/CB	1X4	(2) T5HO (54W)	PFM		

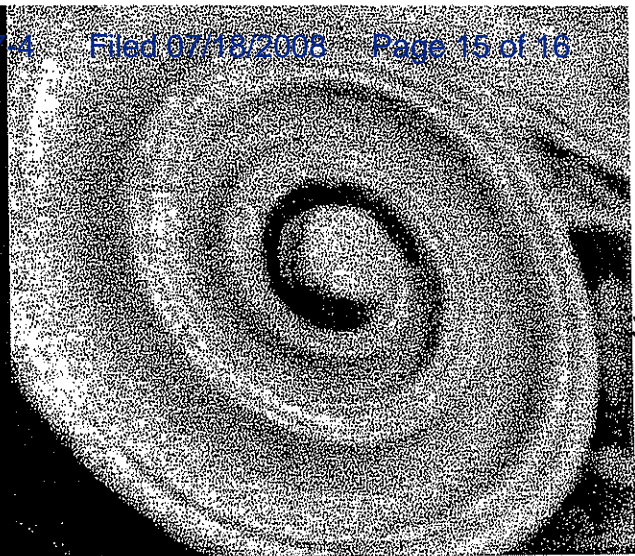


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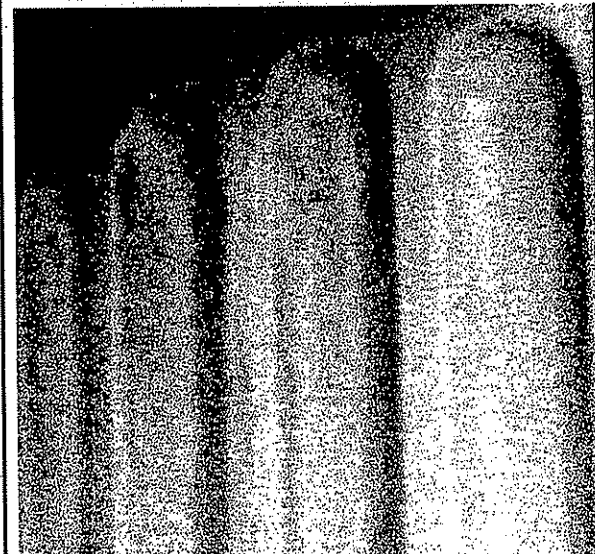
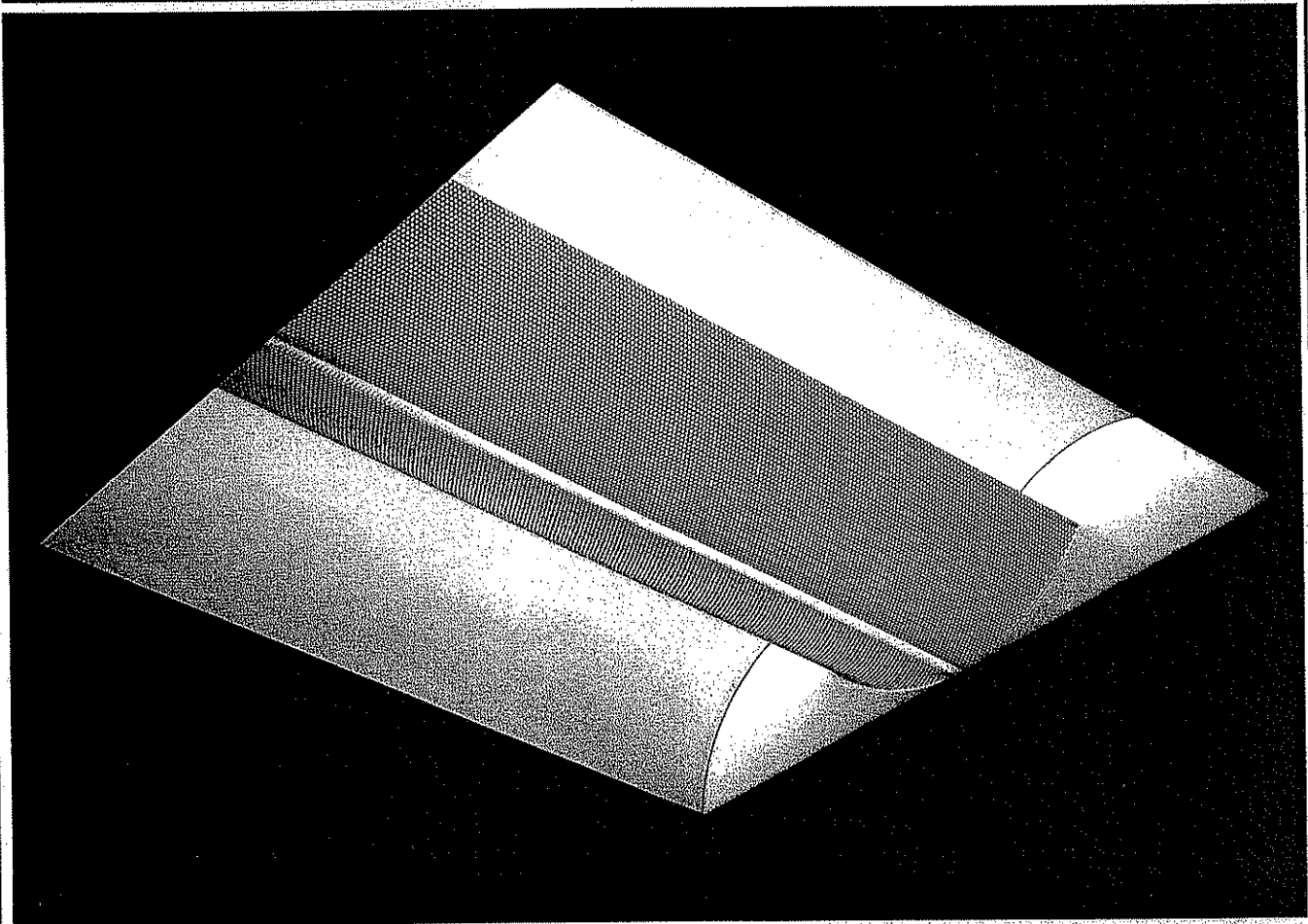


# AST/CB

S E R I E S



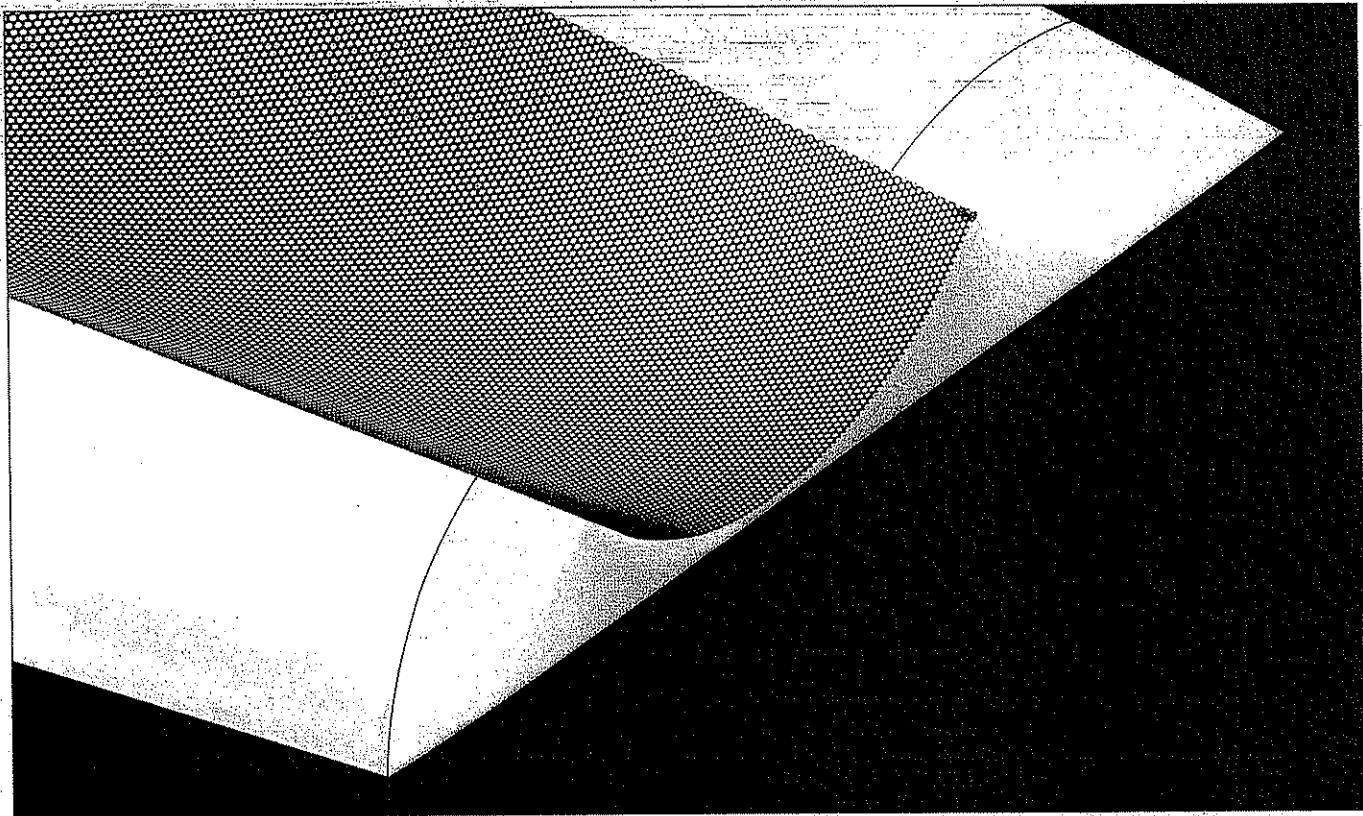
#6



## **INDIRECT/DIRECT RECESSED**

*The AST/CB is a recessed fixture designed to create an indirect lighting environment. The reflecting system is computer designed to assure effective glare control. The AST/CB is ideal for lobbies, conference rooms and large open areas where the fixture may be viewed directly, and complete lamp shielding is a requirement. Fixtures utilizing biax and T5 lamps are available.*

# PICTURE VIEW



SB 1 Piece Diffuser Shown

# PICTURE PERFORMANCE

	CANDELA DISTRIBUTION SUMMARY						COEFFICIENT OF UTILIZATION - Approximate Method (p. 10-20)										ZONAL LUMEN SUMMARY									
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80		.70		.50		.30		.10		0		ZONE	LUMENS %	LAMP %	FIXT		
								RW	.7	.5	.3	.7	.5	.3	.5	.3	.1	.5	.3	.1						
	0°	1337	1337	1337	1337	1337		RCR																		
	5°	1328	1332	1333	1334	1334	127	0	84	84	84	84	82	82	82	82	79	79	79	75	75	75	72	72	72	71
	15°	1284	1291	1297	1301	1304	366	1	77	74	71	68	75	72	69	67	69	67	65	66	65	63	64	62	61	59
	25°	1196	1207	1222	1237	1244	564	2	70	64	59	55	68	63	58	54	60	56	53	58	55	52	56	53	51	49
	35°	1065	1083	1115	1153	1171	700	3	64	56	50	46	62	55	50	45	53	48	44	51	47	44	49	46	43	41
	45°	897	922	988	1056	1085	765	4	58	50	43	38	56	49	43	38	47	42	38	45	41	37	44	40	37	35
	55°	693	736	843	964	1020	762	5	53	43	37	32	51	43	36	32	41	36	31	40	35	31	38	34	31	29
	65°	458	532	699	864	930	686	6	48	39	32	27	47	38	32	27	37	31	27	35	30	27	34	30	26	25
	75°	236	317	465	448	422	412	7	44	35	28	24	43	34	28	23	33	27	23	32	27	23	31	26	23	21
	85°	51	58	72	77	81	82	8	41	31	25	20	40	30	24	20	29	24	20	28	24	20	28	23	20	18
								9	38	28	21	17	37	27	21	17	26	21	17	26	21	17	25	20	17	16
	90°	0	0	0	0	0	0	10	35	25	19	15	34	25	19	15	24	19	15	23	18	15	23	18	15	14
																									</	

AST/CB 240 BIAK



## ORDERING KEY

### CATALOG NUMBER

AST/CB 2x2

AST/CB 2x4

AST/CB 1x4



### NUMBER OF LAMPS

2 - 2 LAMPS

3 - 3 LAMPS

4 - 4 LAMPS

6 - 6 LAMPS

### LAMP WATTAGES

40 BX-40 WATT BIAx

50 BX-50 WATT BIAx

28 T5-28 WATT (4')

### LAMP SHIELDING

PFM - 0.081 DIA HOLES (74 HOLES PER SQ. IN.)

WITH WHITE UNDERLAY DIFFUSER

### CEILING TAPE

T-EXPOSED T-BAR

F-FLANGED APPLICATION

### VOLTAGE - 120V OR 277V

120V-120 VOLT

277V-277 VOLT

### NOTE:

2'X2' FIXTURES ARE AVAILABLE WITH 2 OR 3 BIAx LAMPS

2'X4' FIXTURES ARE AVAILABLE WITH 4 OR 6 BIAx LAMPS OR 2 OR 3 T5 LAMPS

1'X4' FIXTURES ARE AVAILABLE WITH 2 OR 4 BIAx LAMPS OR 2 OR 3 T5 LAMPS



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## ORDERING KEY

### CATALOG NUMBER

AST/CB 2x2



AST/CB 2x4



AST/CB 1x4

### NUMBER OF LAMPS

2 - 2 LAMPS

3 - 3 LAMPS

4 - 4 LAMPS

6 - 6 LAMPS

### LAMP WATTAGES

40 BX-40 WATT BIAx

50 BX-50 WATT BIAx

28 T5-28 WATT (4')

### LAMP SHIELDING

PFM - 0.081 DIA HOLES (74 HOLES PER SQ. IN.)  
WITH WHITE UNDERLAY DIFFUSER

### CEILING TAPE

T-EXPOSED T-BAR

F-FLANGED APPLICATION

### VOLTAGE - 120V OR 277V

120V-120 VOLT

277V-277 VOLT

### NOTE:

2'X2' FIXTURES ARE AVAILABLE WITH 2 OR 3 BIAx LAMPS

2'X4' FIXTURES ARE AVAILABLE WITH 4 OR 6 BIAx LAMPS OR 2 OR 3 T5 LAMPS

1'X4' FIXTURES ARE AVAILABLE WITH 2 OR 4 BIAx LAMPS OR 2 OR 3 T5 LAMPS

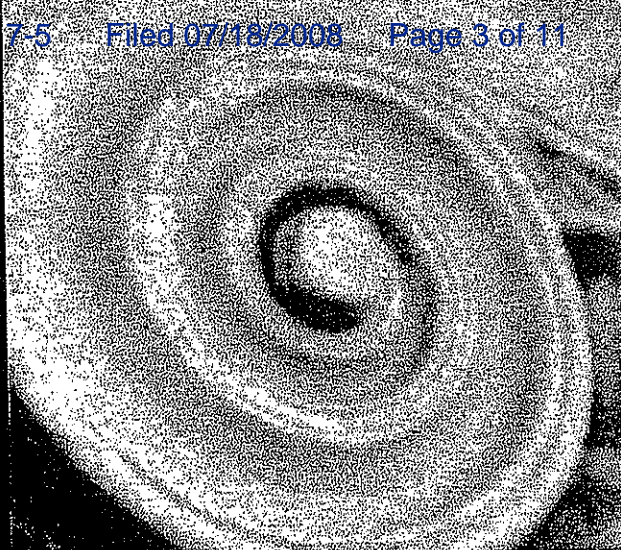


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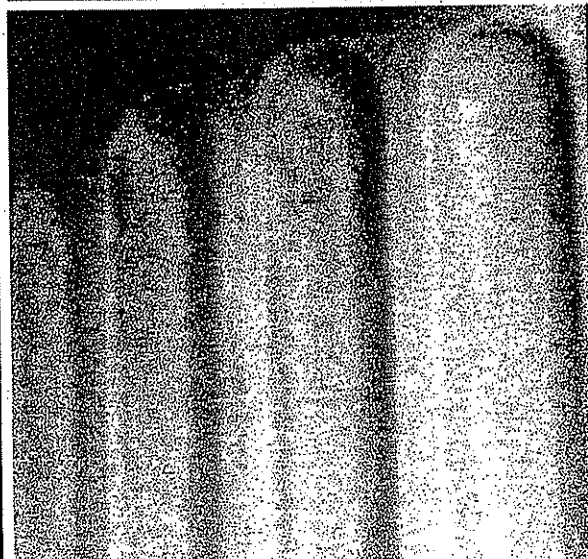
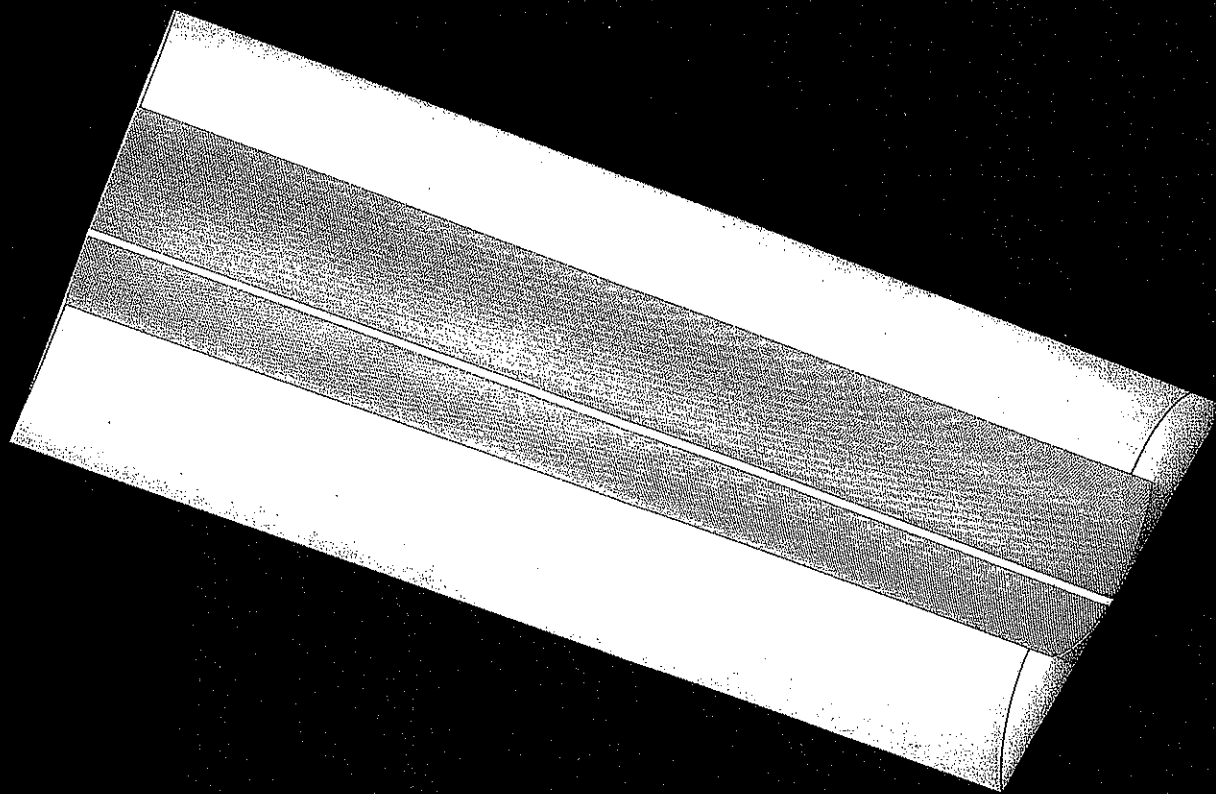
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# AST/CB-24

S E R I E S



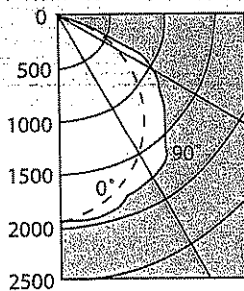
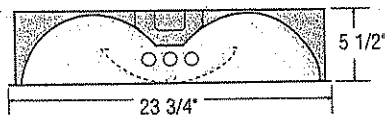
#6



## ***INDIRECT/DIRECT RECESSED***

*The AST/CB-24 is a recessed fixture designed to provide a direct/indirect lighting environment. The reflecting system is computer designed to assure effective glare control. The AST/CB-24 is ideal for lobbies, conference rooms and large open areas where the fixture may be viewed directly and complete lamp shielding is a requirement. Fixtures utilizing biax and T8 lamps are available.*



**AST/CB-24-332-PFM****COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pcf = 0.20**

pCC	.80				.70				.50				.30				.10				0
pW	.7	.5	.3	.1	.7	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	0
RCR																					
0	74	74	74	74	73	73	73	73	69	69	69	66	66	66	64	64	64	62			
1	69	66	64	61	67	65	62	60	62	60	59	60	58	57	57	56	55	54			
2	63	58	54	51	61	57	54	50	55	52	49	53	50	48	51	49	47	46			
3	58	52	47	43	56	51	46	43	49	45	42	47	44	41	46	43	41	39			
4	53	46	41	37	52	45	40	37	44	39	36	42	39	36	41	38	35	34			
5	48	41	35	31	47	40	35	31	39	34	31	37	34	30	36	33	30	29			
6	45	36	31	27	43	36	31	27	35	30	27	34	30	26	33	29	26	25			
7	41	33	27	24	40	32	27	23	31	27	23	30	26	23	30	26	23	22			
8	38	29	24	20	37	29	24	20	28	23	20	27	23	20	27	23	20	19			
9	35	26	21	18	34	26	21	18	25	21	17	25	20	17	24	20	17	16			
10	32	24	19	16	32	24	19	15	23	18	15	22	18	15	22	18	15	14			

Number of Lamps: 2 Lumens per Lamp: 3150 Ballast Factor: 1.00

**CATALOG NUMBER**

AST/CB-24

**NUMBER OF LAMPS**

- 1-1 Lamps
- 2-2 Lamps
- 3-3 Lamps
- 4-4 Lamps

**LAMP WATTAGE**

- 32OCT-32 WATT (4ft.) OCTRON
- 40BX-40 WATT BIAx
- 50BX-50 WATT BIAx

**LAMP SHIELDING**

PFM-0.081 dia holes (74 holes per sq. in.) with matte white overlay

**CEILING TYPE**

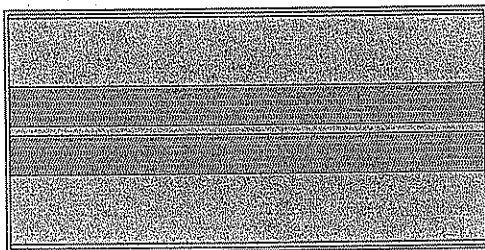
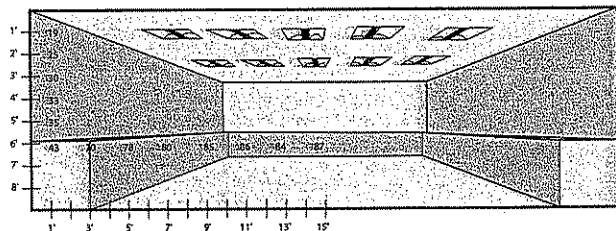
- T - Exposed T-bar
- F - Flanged Application

**VOLTAGE**

- 120V-120 Volt
- 277V-277 Volt

**NOTE:**

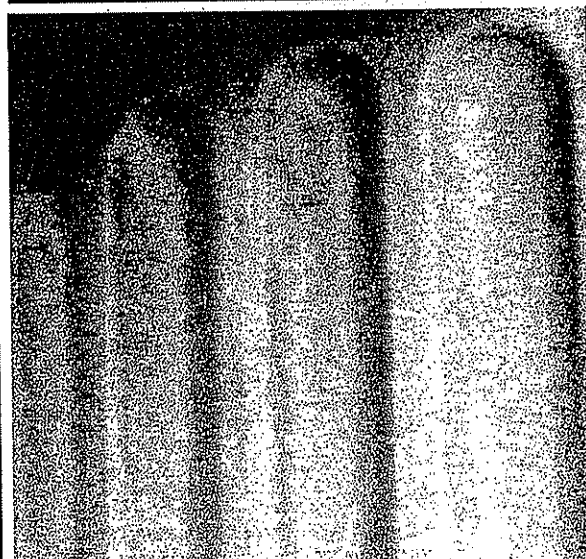
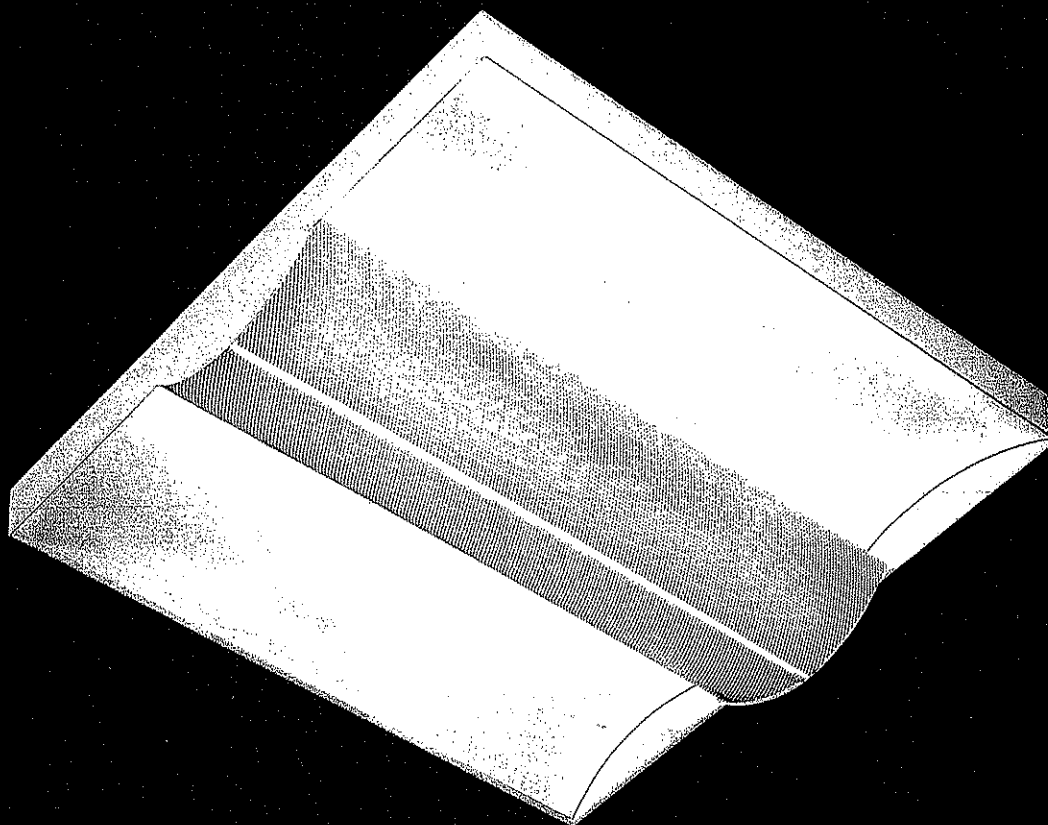
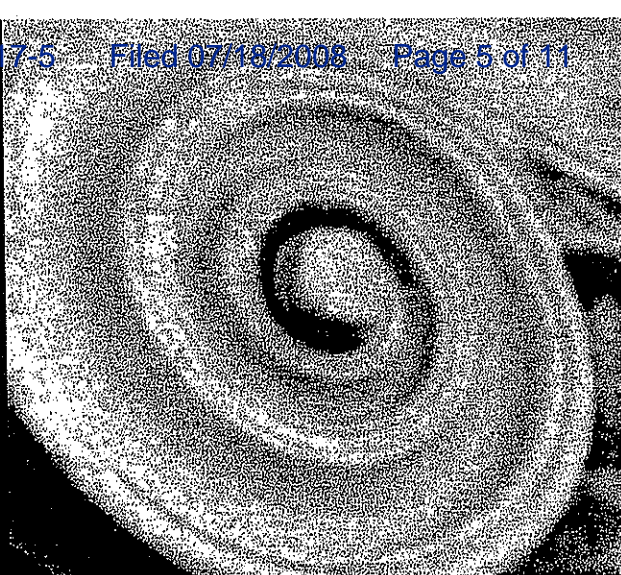
2x4 fixtures are available with 2,4, or 6 Biax lamps or 1,2, or 3 T8 lamps.

**SPECIFICATIONS****HOUSING:** Constructed of die-formed 20 gauge cold rolled steel.**REFLECTOR:** To be die-formed from 20 gauge steel, baked white enamel finish. 89% reflectance.**FINISH:** Baked white enamel**LAMPS:** T8 and Biax, by others.**BALLASTS:** 120 Volt, 60 Hertz, Class P, electronic standard.**LAMP SHIELDING:** Fabricated from perforated metal .74 holes per sq. inch.**LABELING:** Fixtures are Underwriters Laboratories listed and bear the I.B.E.W., AFL-CIO label.**OPTIONS:****BALLASTS:** 277 Volt, and dimming ballasts available, Please specify.**PLAN VIEW****ROOM VIEW****FIXTURE:** AST/CB-24-332-T8-PFM**ROOM:** 30'x20'x8'-6" with 80-50-20 reflectances. Fixtures are on 8'x6' centers.**NOTE:** Values are initial illuminance.

National Lighting Company, Inc. 522 Cortlandt Street, Belleville, New Jersey 07109  
 212-751-1600 • 973-751-1600 • FAX-973-751-4931  
 www.natlgtg.com

# SF-AST/CB

S E R I E S



## INDIRECT/DIRECT SURFACE

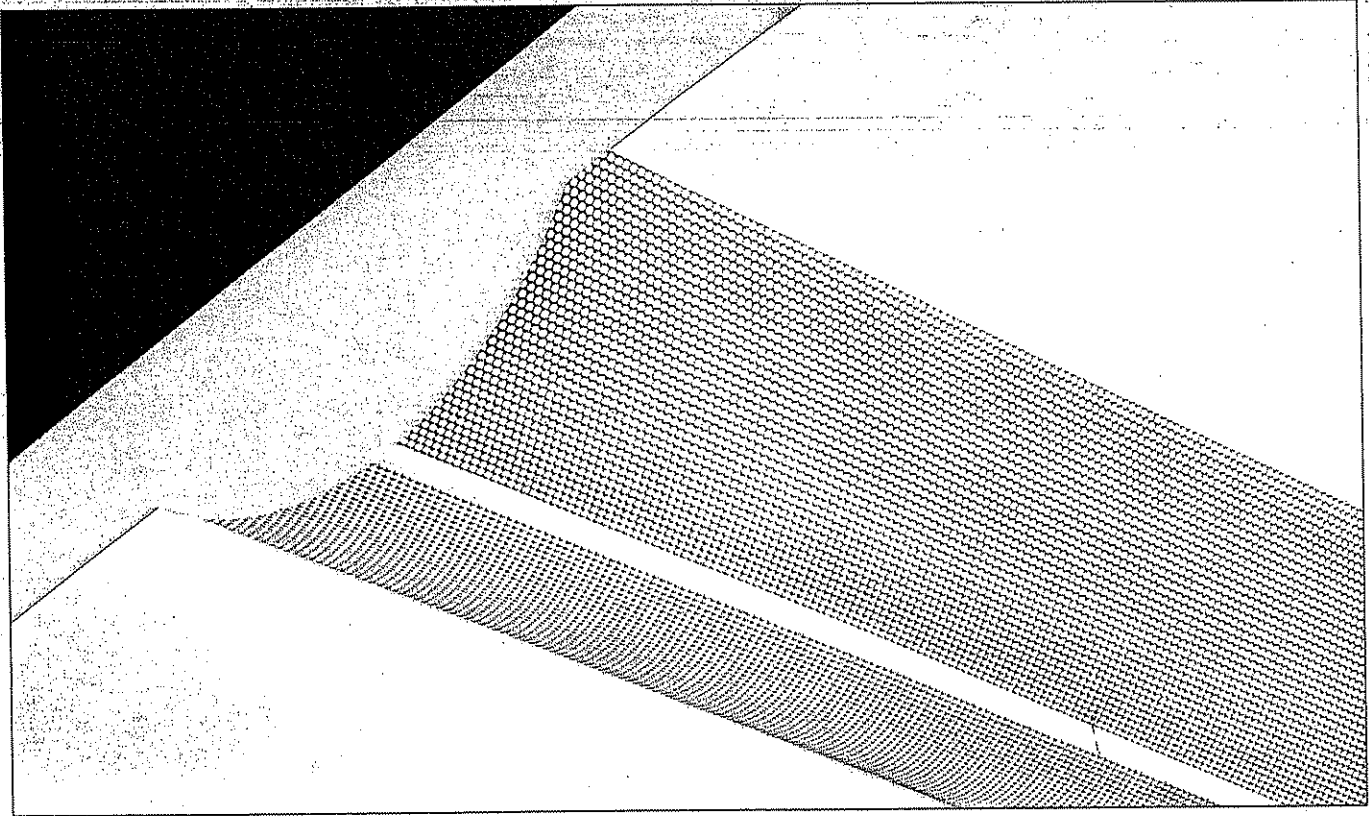
*The AST surface mounted series is designed for spaces that require shallow surface mounted fixtures with wide lighting distribution. This fixture series is only 3-15/16" deep.*

*The SF-AST/CB is designed for applications where access is not available for a recessed fixture, and the appearance of a recessed AST/CB is required.*

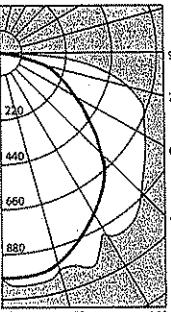
*The SF-AST/CB is designed for large open areas, where fixtures can be viewed directly and complete lamp shielding is required. Fixtures utilizing Biax, T5 and T5HO lamps are available.*




## FIXTURE VIEW



## FIXTURE BEAM SPREAD

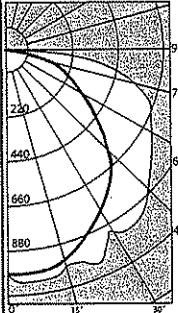
	CANDELA DISTRIBUTION SUMMARY						COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20											ZONAL LUMEN SUMMARY													
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80			.70			.50			.30			.10			0			ZONE LUMENS			%LAMP	%FIXT
								RW	.7	.5	.3	.1	.7	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	0					
	0°	900	900	900	900	900																					0-30	796	12.6	23.1	
	5°	890	897	898	899	898	85																				0-40	1320	21.0	38.4	
	15°	853	863	867	874	877	245	0	65	65	65	65	63	63	63	63	61	61	61	58	58	58	56	56	56	54	0-60	2434	38.6	70.7	
	25°	782	796	813	831	835	375	1	59	56	53	51	57	55	52	50	52	50	49	50	49	47	48	47	46	45	0-90	3433	54.5	99.7	
	35°	680	699	737	770	782	460	2	53	48	44	41	52	47	44	41	45	42	40	43	41	39	42	40	38	36	90-180	10	0.2	0.3	
	45°	548	581	644	692	709	492	3	48	42	38	34	47	42	37	34	40	36	33	38	35	32	37	34	32	31	0-180	3443	54.7	100.0	
	55°	398	454	543	617	644	478	4	44	37	32	29	43	37	32	28	35	31	28	34	30	28	33	30	27	26					
	65°	242	326	453	541	570	427	5	40	33	28	24	39	32	27	24	31	27	23	30	26	23	29	26	23	22					
	75°	121	212	347	431	460	337	6	37	29	24	21	36	29	24	20	28	23	20	27	23	20	26	22	20	19					
	85°	36	80	144	171	172	141	7	34	26	21	18	33	26	21	18	25	21	17	24	20	17	23	20	17	16					
	90°	0	11	35	60	70		8	31	24	19	15	30	23	18	15	22	18	15	22	18	15	21	17	15	14					
								9	29	21	16	13	28	21	16	13	20	16	13	19	16	13	19	15	13	12					
								10	27	19	15	12	26	19	14	11	18	14	11	18	14	11	17	14	11	10					




2 - 40W BIAX LAMP



2 - 40W BIAx LAMP

	CANDELA DISTRIBUTION SUMMARY						COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pfc = 0.20														ZONAL LUMEN SUMMARY									
	ANGLE	0.0	22.5	45.0	67.5	90.0	FLUX	RCC	.80			.70			.50			.30			.10			0	ZONE LUMENS	%LAMP	%FIXT			
								RW	.7	.5	.3	.1	.7	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	0				
0°	900	900	900	900	900																					0-30	796	12.6	23.1	
5°	890	897	898	899	898	85																				0-40	1320	21.0	38.4	
15°	853	863	867	874	877	245	0	65	65	65	65	63	63	63	63	61	61	61	58	58	58	56	56	56	54	0-60	2434	38.6	70.7	
25°	782	796	813	831	835	375	1	59	56	53	51	57	55	52	50	52	50	49	50	49	47	48	47	46	45	0-90	3433	54.5	99.7	
35°	680	699	737	770	782	460	2	53	48	44	41	52	47	44	41	45	42	40	43	41	39	42	40	38	36	90-180	10	0.2	0.3	
45°	548	581	644	692	709	492	3	48	42	38	34	47	42	37	34	40	36	33	38	35	32	37	34	32	31	0-180	3443	54.7	100.0	
55°	398	454	543	617	644	478	4	44	37	32	29	43	37	32	28	35	31	28	34	30	28	33	30	27	26					
65°	242	326	453	541	570	427	5	40	33	28	24	39	32	27	24	31	27	23	30	26	23	29	26	23	22					
75°	121	212	347	431	460	337	6	37	29	24	21	36	29	24	20	28	23	20	27	23	20	26	22	20	19					
85°	36	80	144	171	172	141	7	34	26	21	18	33	26	21	18	25	21	17	24	20	17	23	20	17	16					
90°	0	11	35	60	70		8	31	24	19	15	30	23	18	15	22	18	15	22	18	15	21	17	15	14					
							9	29	21	16	13	28	21	16	13	20	16	13	19	16	13	19	15	13	12					
							10	27	19	15	12	26	19	14	11	18	14	11	18	14	11	17	14	11	10					



4 - 40W BIAx LAMP



4 - 40W BIAx LAMP

## SPECIFICATIONS

**HOUSING:** To be die-formed from 20 gauge cold rolled steel.

**REFLECTOR:** To be die-formed from 20 gauge cold rolled steel, baked white enamel finish, with 89% reflectance.

**BALLAST:** 120 Volt, 60 Hertz, Class P, Electronic standard.

**LAMP SHIELDING:** Fabricated from perforated metal. 74 holes per square inch. Perforations 0.081 diameter with white overlay acrylic diffuser.

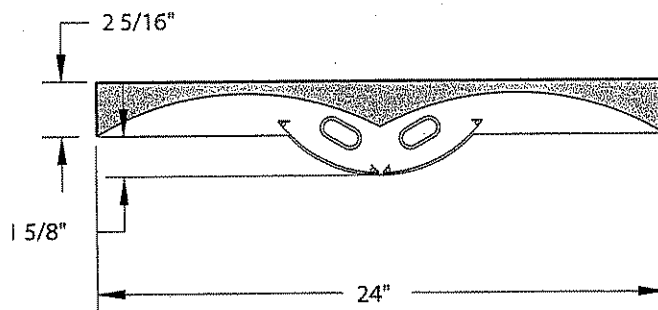
**LAMPS:** Biax, T5, T5HO by others.

**LABELING:** Fixtures are Underwriters Laboratories listed and bear the I.B.E.W., AFL-CIO label.

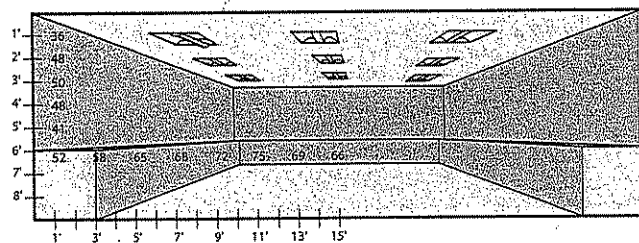
**OPTIONS:**

**BALLASTS:** 277 Volt, dimming ballasts available. Please specify.

## FINISH PROFILE



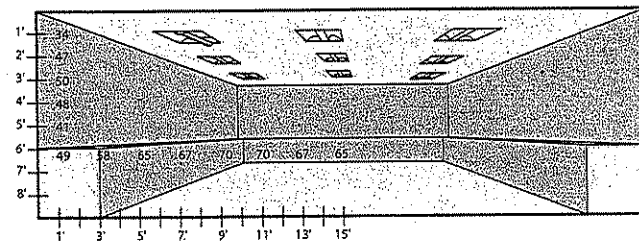
## ROOM VIEW



FIXTURE: SF-AST-CB-24-440-BX-PFM, 8' X 8' ON CENTER

ROOM: 30'X20'X8'-6" WITH 80-50-20 REFLECTANCES.

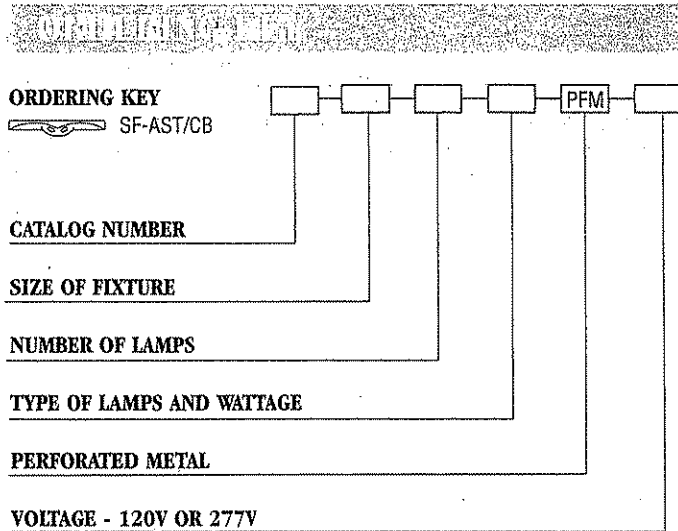
NOTE: VALUES ARE INITIAL ILLUMINANCE.



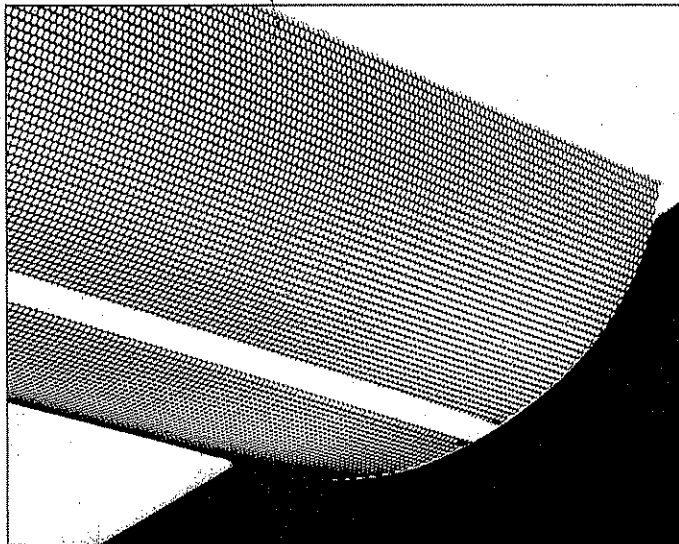
FIXTURE: SF-AST-CB-22-240-BX-PFM, 6' X 6' ON CENTER

ROOM: 30'X20'X8'-6" WITH 80-50-20 REFLECTANCES.

NOTE: VALUES ARE INITIAL ILLUMINANCE.



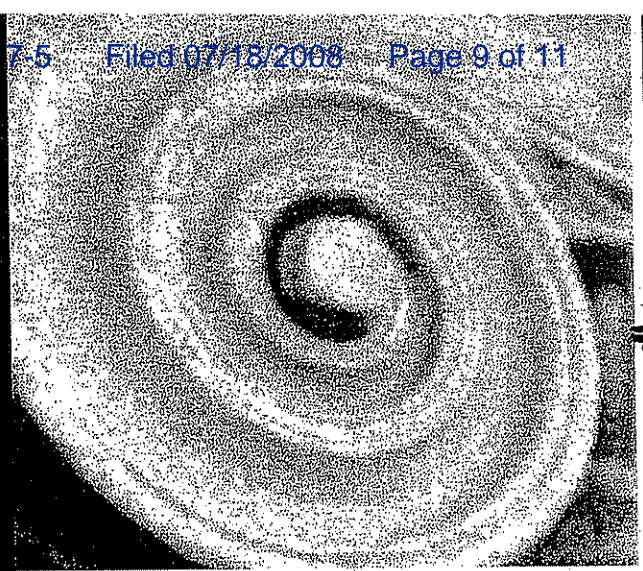
		FIXTURE		PFM	VOLTAGE
CATALOG NUMBER	SIZE	(NO.) LAMPS			
SF-AST/CB	2X2	(2) 40 Biax		PFM	
SF-AST/CB	2X2	(2) 50 Biax		PFM	
SF-AST/CB	2X2	(2) T5 (14W)		PFM	
SF-AST/CB	2X2	(2) T5HO (24W)		PFM	
SF-AST/CB	2X4	(4) 40 Biax		PFM	
SF-AST/CB	2X4	(4) 50 Biax		PFM	
SF-AST/CB	2X4	(2) T5 (28W)		PFM	
SF-AST/CB	2X4	(2) T5HO (54W)		PFM	
SF-AST/CB	1X4	(2) 40 Biax		PFM	
SF-AST/CB	1X4	(2) 50 Biax		PFM	
SF-AST/CB	1X4	(2) T5 (28W)		PFM	
SF-AST/CB	1X4	(2) T5HO (54W)		PFM	



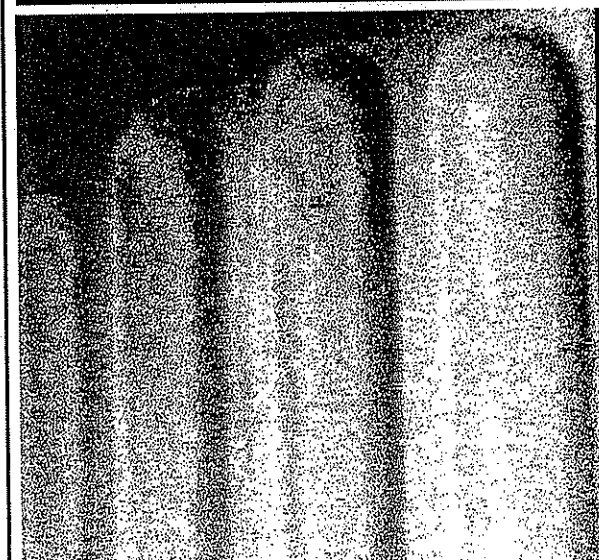
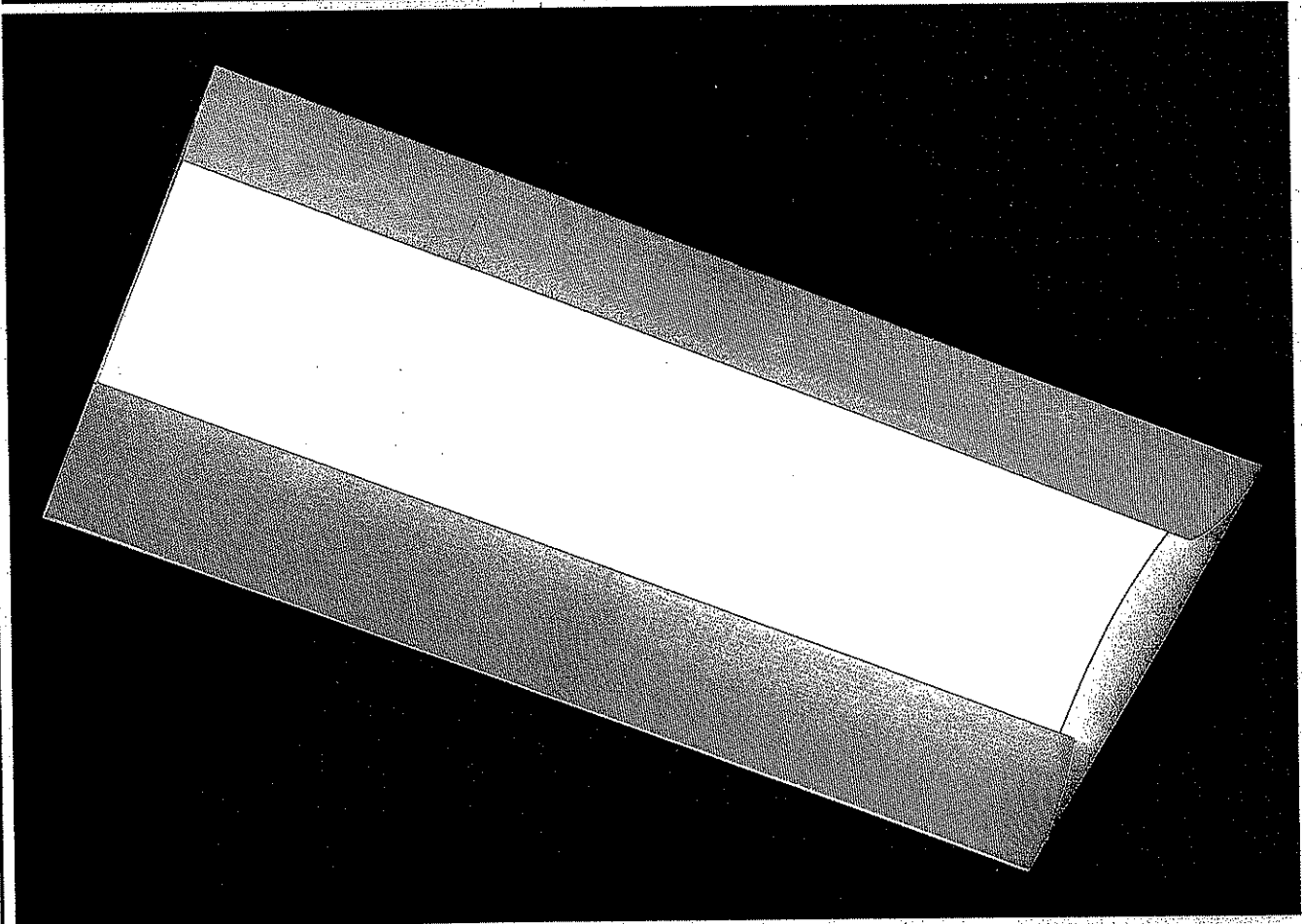


# AST/24

S E R I E S



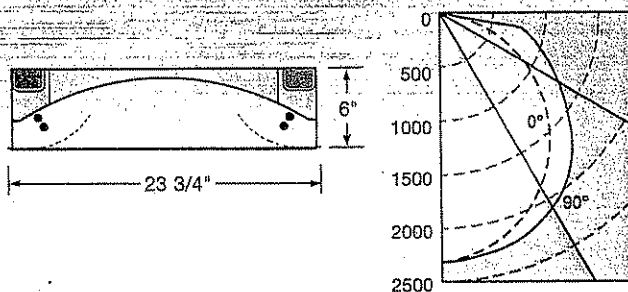
#8



## ***INDIRECT/DIRECT RECESSED***

*The AST/24 is designed to provide a direct/indirect lighting environment. The reflecting system is computer designed to assure effective glare control. The AST/24 is ideal for lobbies, conference rooms, corridors, executive offices and spaces where the fixture may be viewed directly.*



**AST/CB-24-240-BX****COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pcf = 0.20**

pCC	.80				.70				.50				.30				.10				0
pW	.7	.5	.3	.1	.7	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	0
RCR																					
0	63	63	63	63	62	62	62	62	59	59	59	57	57	57	54	54	54	53			
1	58	56	53	51	57	54	52	50	52	50	49	50	49	47	48	47	46	45			
2	53	49	45	42	51	47	44	41	46	43	40	44	42	39	42	40	39	37			
3	48	43	39	35	47	42	38	35	40	37	34	39	36	34	38	35	33	32			
4	44	38	33	30	43	37	33	30	36	32	29	35	31	29	34	31	28	27			
5	40	34	29	25	39	33	28	25	32	28	25	31	27	25	30	27	24	23			
6	37	30	25	22	36	30	25	22	29	25	22	28	24	21	27	24	21	20			
7	34	27	22	19	33	27	22	19	26	22	19	25	21	19	24	21	19	17			
8	32	24	20	17	31	24	20	16	23	19	16	23	19	16	22	19	16	15			
9	29	22	17	14	28	22	17	14	21	17	14	20	17	14	20	16	14	13			
10	27	20	16	13	26	20	15	13	19	15	13	19	15	12	18	15	12	11			

Number of Lamps: 2 Lumens per Lamp: 4000 Ballast Factor: 1.00  
Independent Luminaire Testing Laboratory Report Number: 04217

**CATALOG NUMBER**

AST/24

**NUMBER OF LAMPS**

2-2 Lamps  
4-4 Lamps

**LAMP WATTAGE**

32/OCT-32WATT (4FT) OCTRON  
40BX-40WATT BIAx  
50BX-50WATT BIAx

**LAMP SHIELDING**

PFM - 0.081 dia holes (74 holes per sq inch)  
with matte white overlay

**CEILING TYPE**

T - Exposed T-bar  
F - Flanged Application

**VOLTAGE**

120V-120 Volt  
277V-277 Volt

**NOTE:**

2x4 fixtures are available with 2 or 4 biax lamps  
or 2 or 4 T8 lamps.

**HOUSING:** Constructed of die-formed cold rolled steel.

**REFLECTOR:** To be die-formed from 20 gauge steel, baked white enamel

finish. 89% reflectance.

**FINISH:** Baked white enamel

**LAMPS:** T8 and Biax, by others.

**BALLASTS:** 120 Volt, 60 Hertz, Class P, electronic standard.

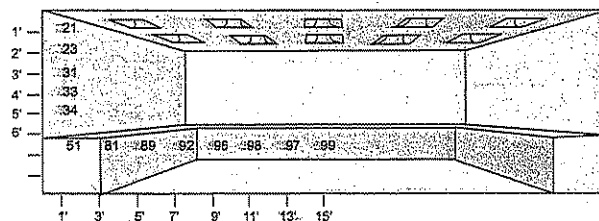
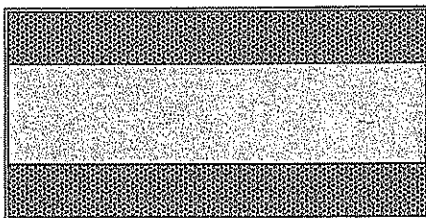
**LAMP SHIELDING:** Fabricated from perforated metal. 74 holes per sq. inch.

Perforations .081 dia holes with white acrylic overlay diffuser

**LABELING:** Fixtures are Underwriters Laboratories listed and bear the I.B.E.W., AFL-CIO label.

**OPTIONS:**

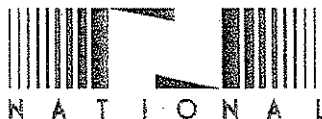
**BALLASTS:** 277 Volt, and dimming ballasts available, Please specify.



**FIXTURE:** AST24-4-40BX-PFM

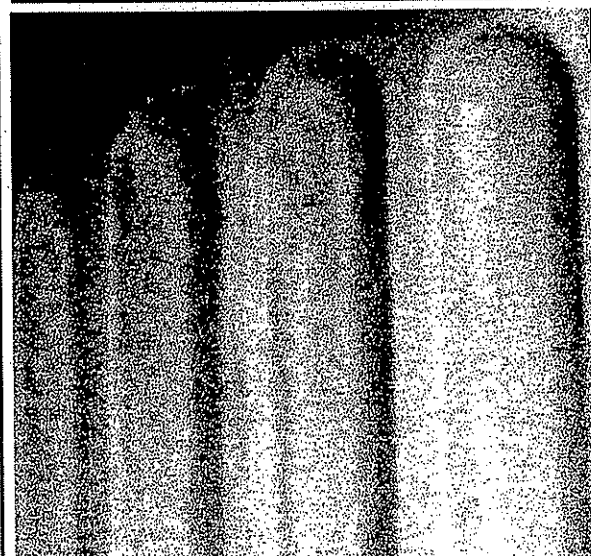
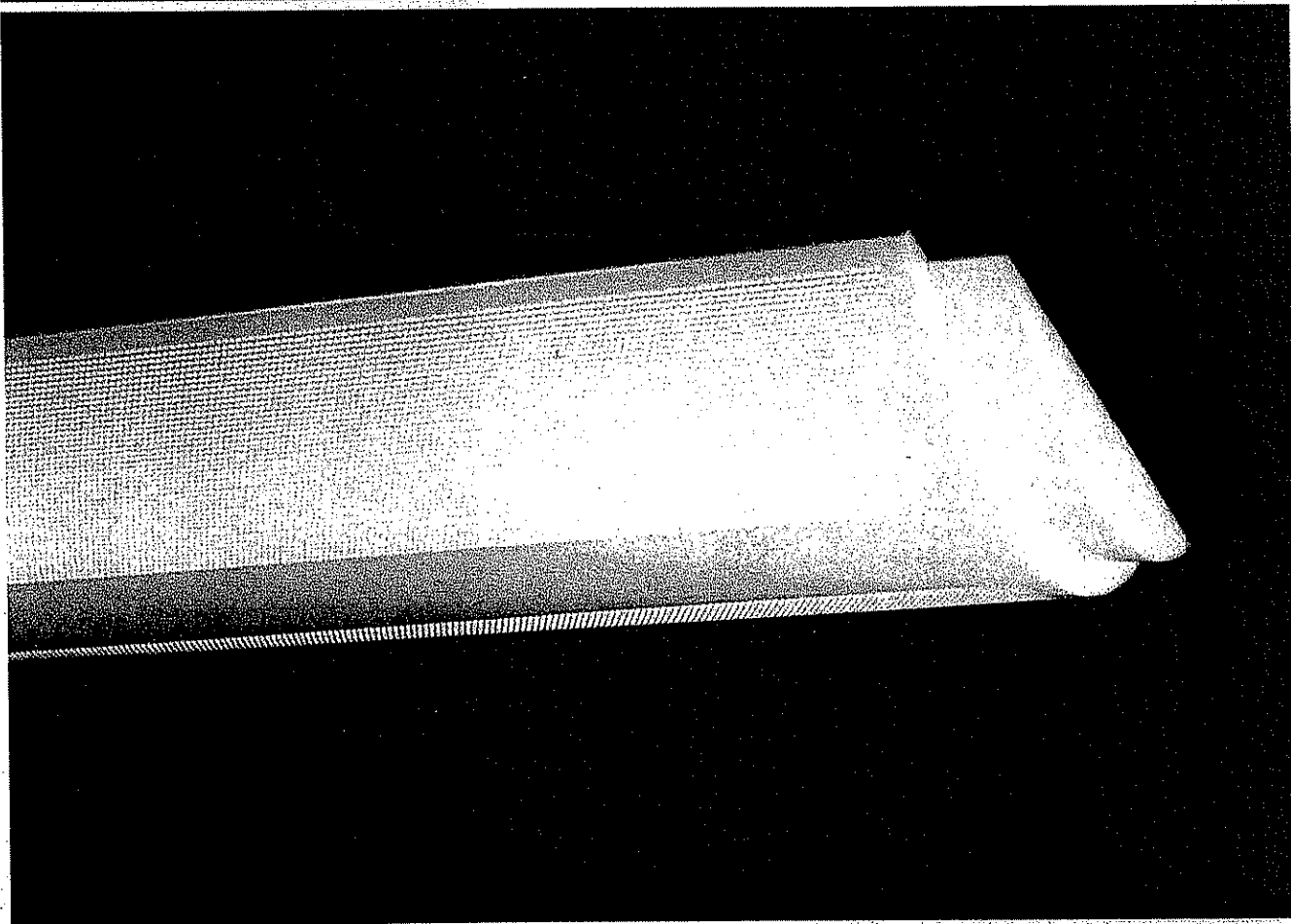
**ROOM:** 30'X20'X8'-6" WITH 80-50-20 REFLECTANCES.

**NOTE:** Values are Initial illuminance. Fixtures are on 8' x 6' centers



# JDA

SERIES

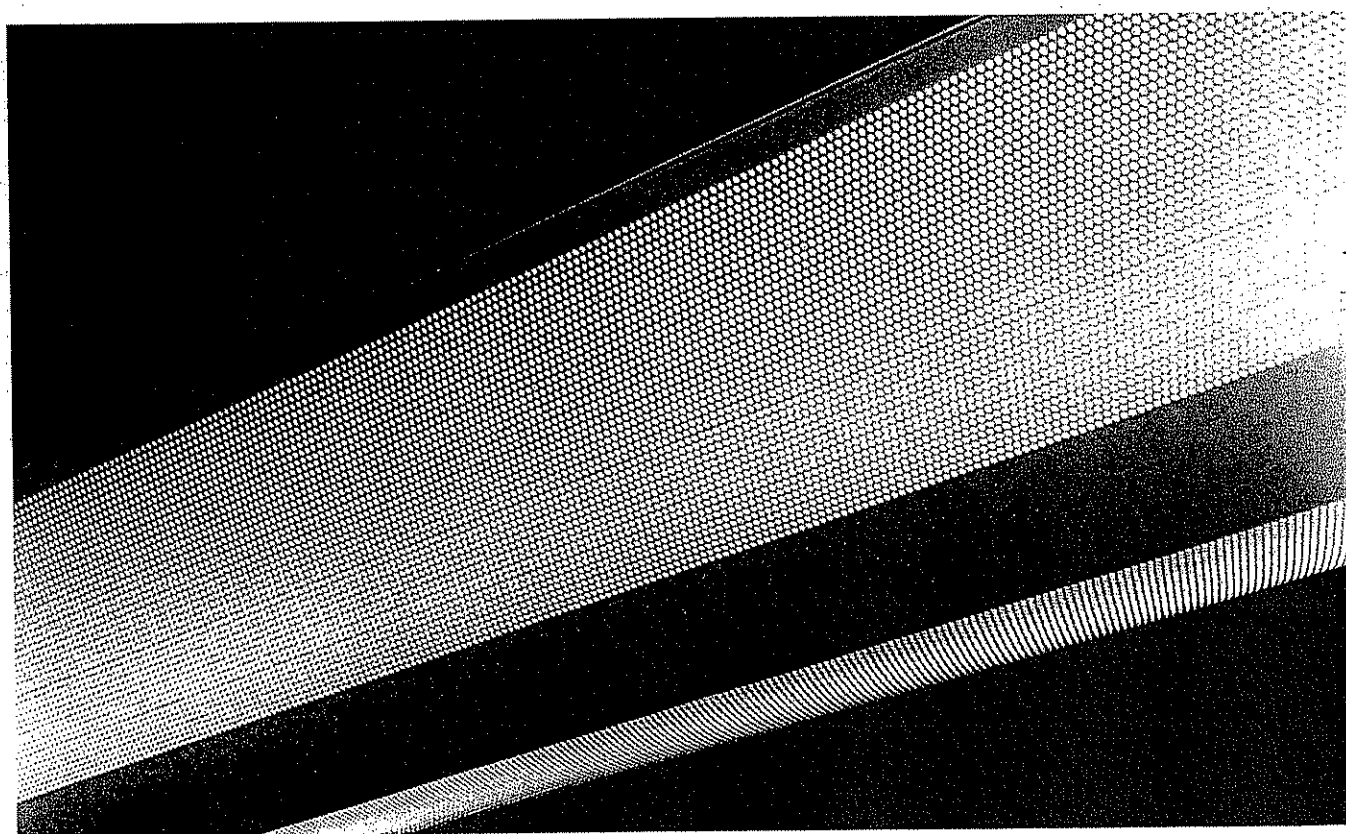
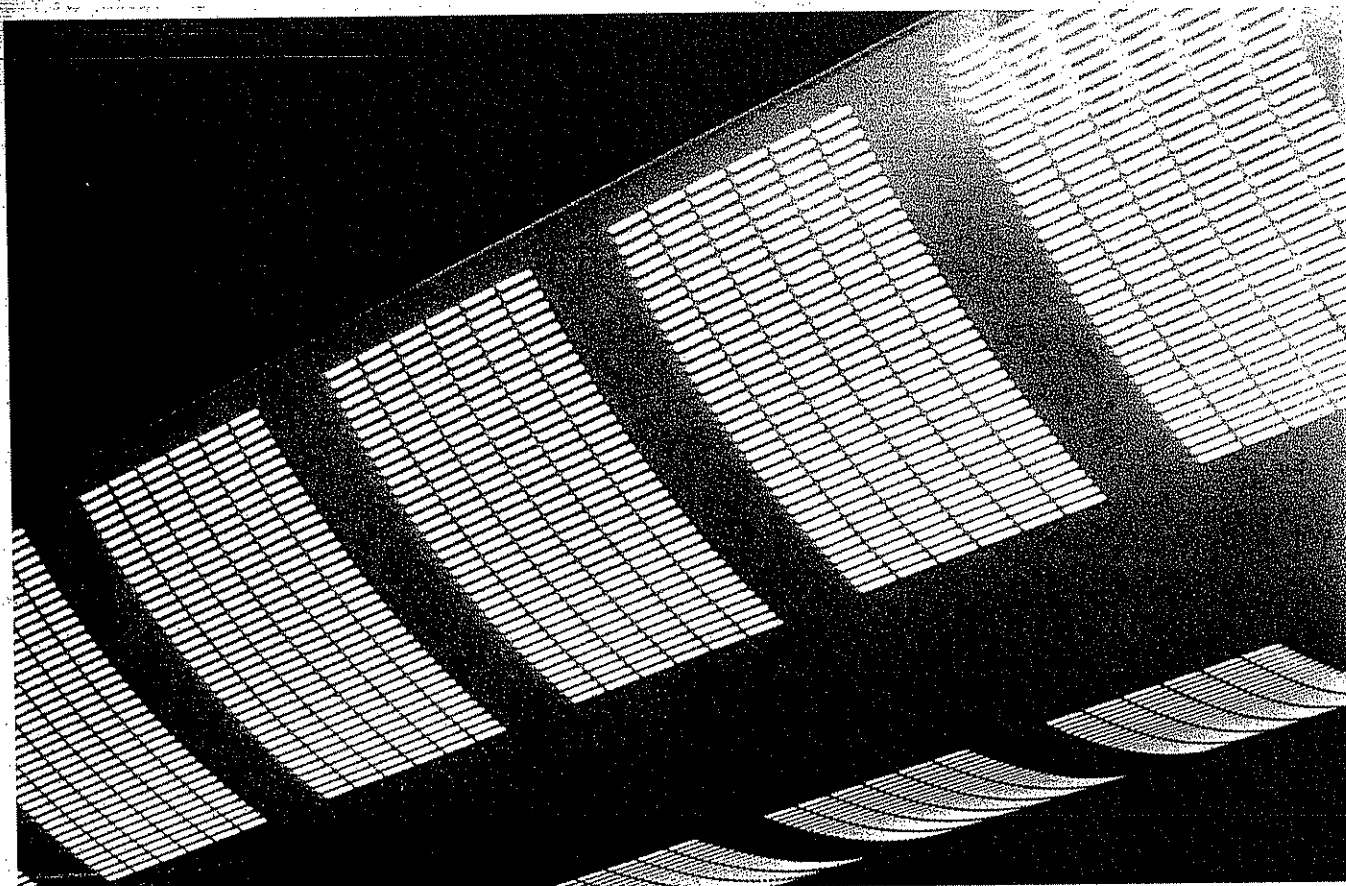


## **INDIRECT PENDANT MOUNTED**

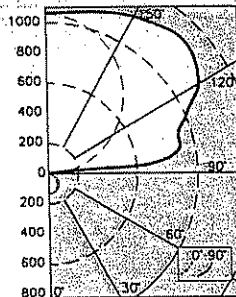
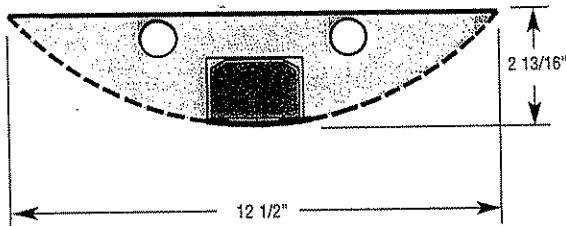
*The blending of perforated steel and translucent diffusers creates an environment suitable for contemporary space design. The JDA was designed for open or individual offices. The computer designed reflecting system provides a wide spread indirect lighting distribution, with a soft direct component. The JDA can be utilized for continuous runs or individual applications.*



# TEXTURE 311A



### JDA-ID/D-232-T8-PFM

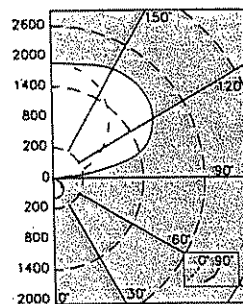
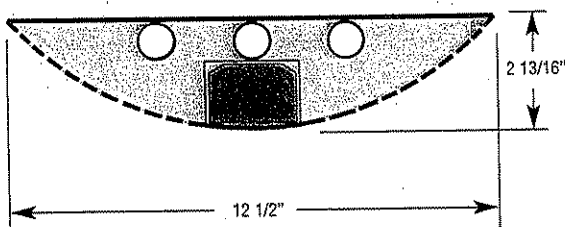


COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD: pfc=0.20

pCC	.80	.70	.50	.30	.10	0
pW	.7 .5 .3 .1	.7 .5 .3 .1	.5 .3	.5 .3	.5 .3 .1	0
RCR			.1	.1		
0	83 83 83 83	72 72 72 72	51 51 51	33 33 33	16 16 16	8
1	75 72 69 66	65 62 60 58	45 43 42	29 28 27	14 13 13	6
2	69 63 58 54	59 55 51 47	39 37 35	25 24 23	12 12 11	5
3	62 55 49 45	54 48 43 39	35 32 29	22 21 19	11 10 9	5
4	57 49 42 38	49 42 37 33	31 28 25	20 18 16	10 9 8	4
5	52 43 37 32	45 38 32 28	27 24 21	18 16 14	9 8 7	3
6	48 38 32 27	41 34 28 24	25 21 19	16 14 12	8 7 6	3
7	44 34 28 24	38 30 25 21	22 19 16	14 12 10	7 6 5	2
8	41 31 25 21	35 27 22 18	20 17 14	13 11 9	6 5 4	2
9	38 28 22 18	33 25 19 16	18 16 12	12 10 8	6 5 4	2
10	35 25 20 16	30 22 17 14	16 13 11	11 9 7	5 4 4	2

Number of lamps: 2 Lumens per lamp: 2850 Ballast Factor: 1.00

### JDA-ID/D-332-T8-PFM

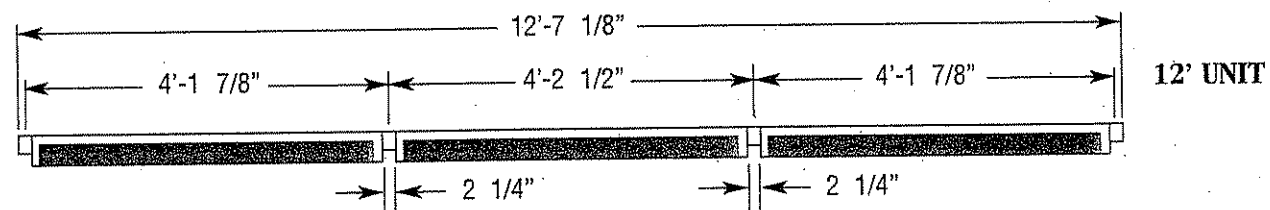
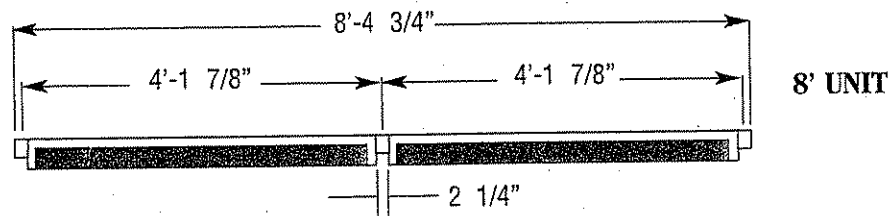
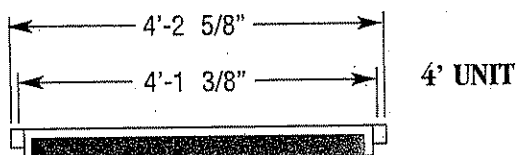


COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD: pfc=0.20

pCC	.80	.70	.50	.30	.10	0
pW	.7 .5 .3 .1	.7 .5 .3 .1	.5 .3	.5 .3	.5 .3 .1	0
RCR			.1	.1		
0	80 80 80 80	69 69 69 69	49 49 49	31 31 31	14 14 14	6
1	73 69 66 64	63 60 58 56	43 41 40	27 26 25	12 12 11	5
2	66 61 56 52	57 53 49 45	37 35 33	23 22 21	11 10 10	4
3	60 55 48 43	52 46 42 38	33 30 28	21 19 18	9 9 8	4
4	55 47 41 36	47 41 36 32	29 26 23	18 17 15	8 8 7	3
5	50 42 35 31	43 36 31 27	26 23 20	15 14 13	7 7 6	3
6	46 37 31 26	40 32 27 23	23 20 17	15 13 11	7 6 5	2
7	43 30 24 23	37 29 24 20	21 17 15	13 11 10	6 5 5	2
8	39 30 24 20	34 26 21 18	19 15 13	12 10 9	6 5 4	2
9	36 27 21 17	31 24 19 15	17 14 11	11 9 7	5 4 4	2
10	34 25 19 15	29 21 17 14	16 12 10	10 8 7	5 4 3	1

Number of lamps: 3 Lumens per lamp: 2850 Ballast Factor: 1.00

### MOUNTING FOR JDA 2T8 AND JDA 3T8 FIXTURES





**HOUSING:** Constructed of die-formed 20 gauge cold rolled steel.

Perforations 0.081" dia. holes, 74 holes per square inch.

**FINISH:** Baked white enamel.

**LAMP SHIELDING:** Fabricated from perforated metal with white underlay diffuser.

**LAMPS:** T8 and T12 rapid start (by others).

**BALLASTS:** 120 volt, 60 hertz, class P, ESB standard.

**LABELING:** Fixtures are Underwriters Laboratories listed and bear the I.B.E.W., AFL-CIO label.

**OPTIONS:**

**BALLASTS:** 277 volt, electronic and dimming ballasts available, Please specify.

**FINISH:** Custom paint finishes are available. Please supply color sample

**CATALOG NUMBER**

JDA 2T8 JDA 3T8

**LIGHTING DISTRIBUTION**

ID/D - INDIRECT/DIRECT

**NUMBER OF LAMPS**

2 - 2 Lamps

3 - 3 Lamps

4 - 4 Lamps

**LAMP WATTAGE**

25/OCT - 25 Watt (3FT) Octron

32/OCT - 32 Watt (4FT) Octron

40/OCT - 40 Watt (5FT) Octron

50T/OCT - Tandem 25 Watt (6FT) Octron

64T/OCT - Tandem 32 Watt (8FT) Octron

40BX - 40 Watt Biax

**LAMP SHIELDING**

PFM - 0.081 dia. holes (74 holes per sq. inch) with white acrylic underlay diffuser

**MOUNTING**

W - Wall mounting

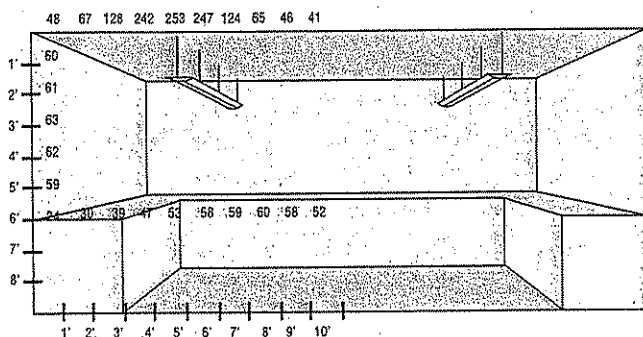
**VOLTAGE**

120V - 120 Volt

277V - 277 Volt

**OVERALL LENGTH**

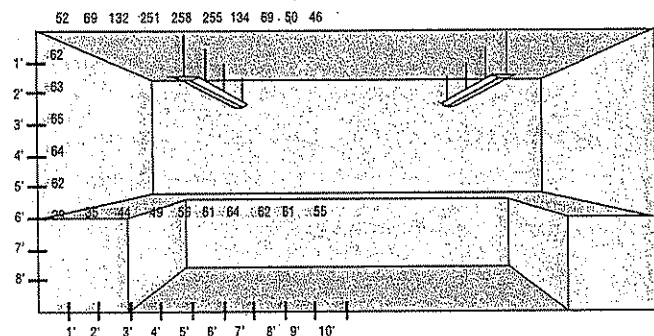
(Specify overall length)



**FIXTURE:** JDA-ID/D-232/OCT-PFM, 10' O.C., 1'-6" stem length.

**ROOM:** 32'X20'X8'6" with 80-50-20 reflectances.

**NOTE:** Values are initial illuminance.



**FIXTURE:** JDA-ID/D-332/OCT-PFM, 10' O.C., 1'-6" stem length.

**ROOM:** 32'X20'X8'6" with 80-50-20 reflectances.

**NOTE:** Values are initial illuminance.



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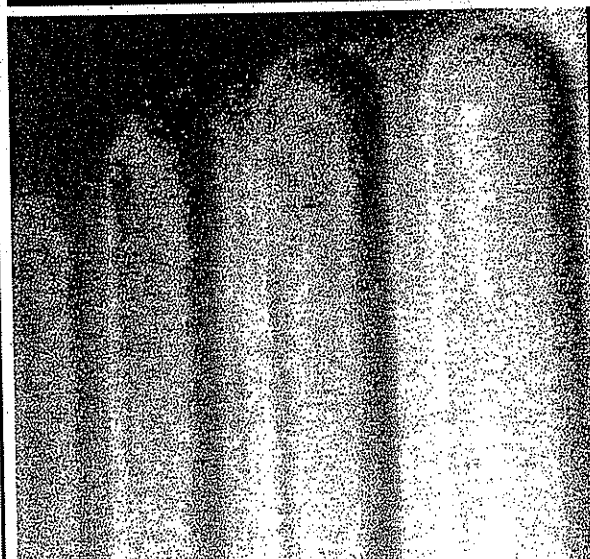
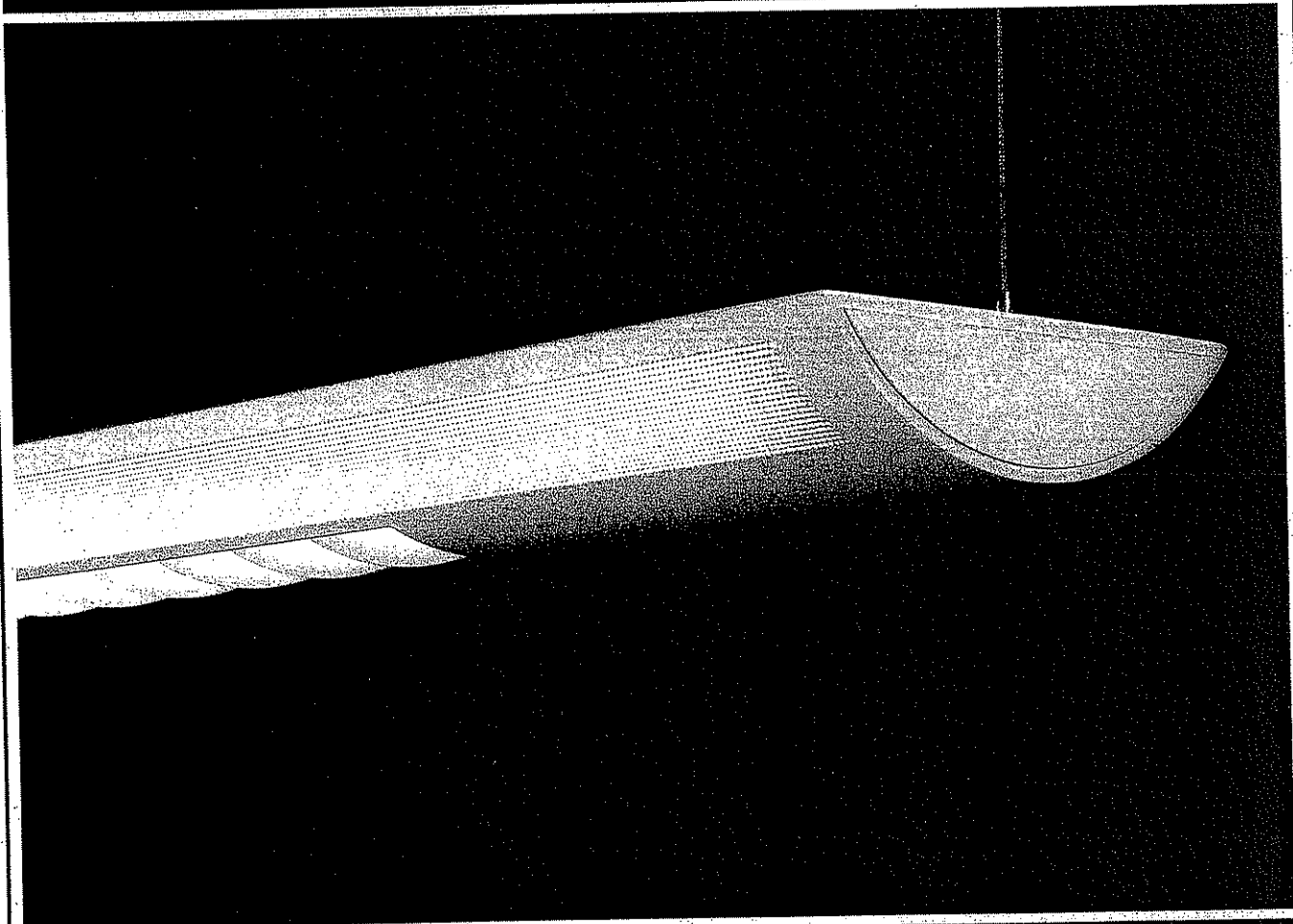
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# SC 28 PF

S E R I E S

#10



## **INDIRECT/DIRECT PENDANT MOUNTED**

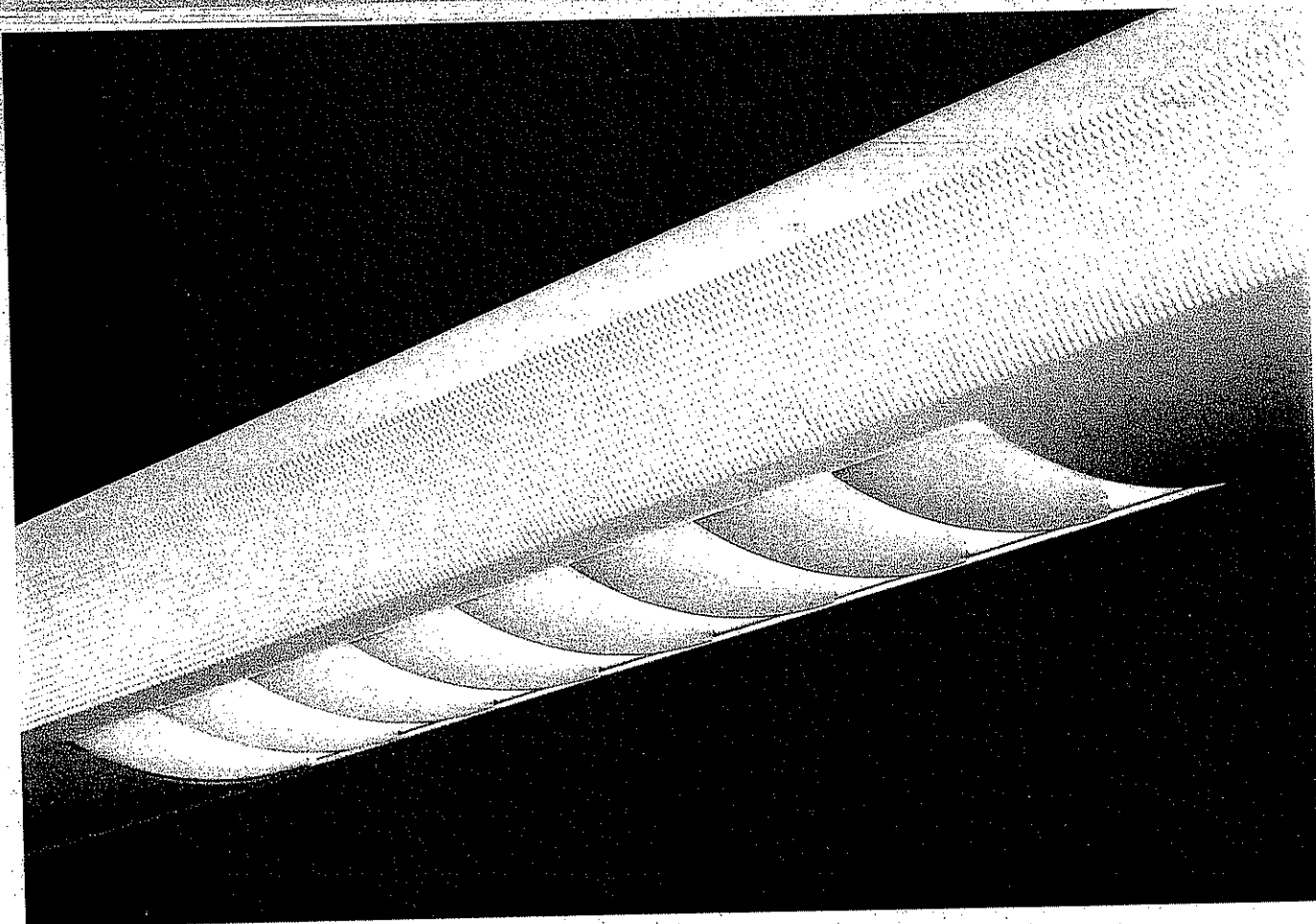
*The SC 28PF series combines the blending of perforated steel and blade louvers to create an environment suitable for contemporary space design. The SC 28 PF is designed for open areas or individual offices.*

*The computer designed reflecting system provides a wide spread indirect lighting distribution with a strong, controlled direct component.*

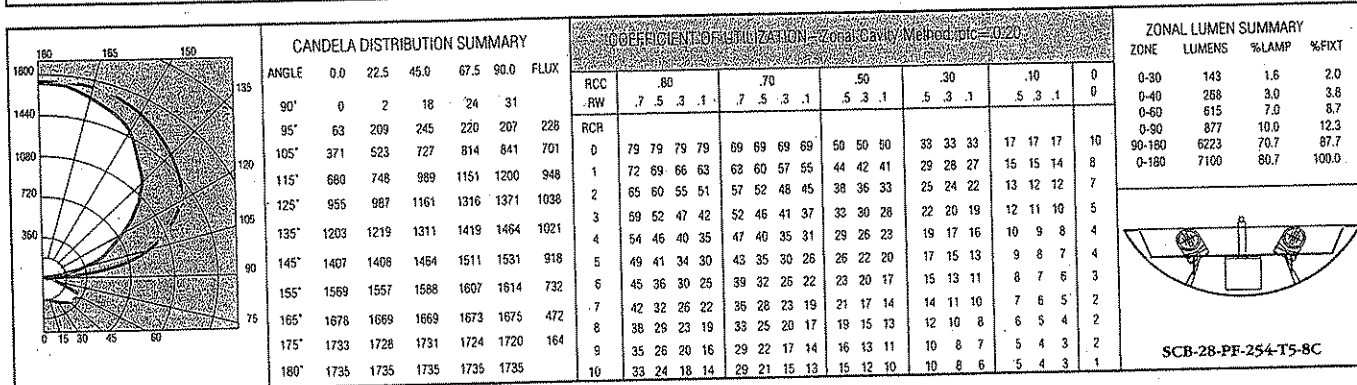
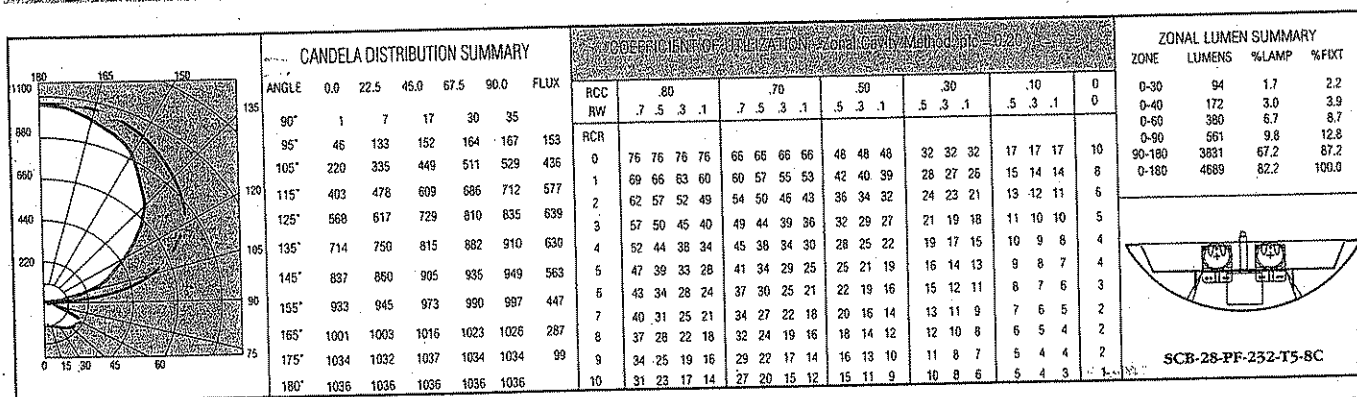
*T5, T5HO and T8 lamps can be utilized. Contoured end caps are available to complete the overall fixture design.*



# SCB-28-PF-252-T5-8C



## FIXTURE PERFORMANCE

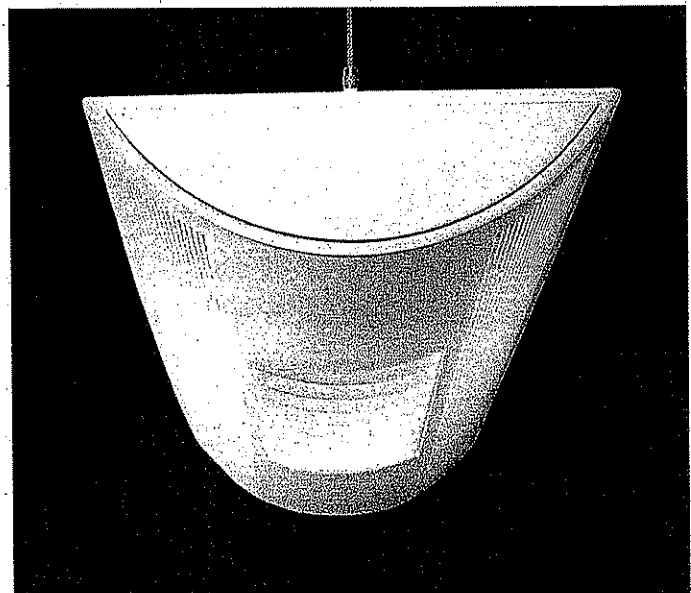


**ORDINARY VIEW****CATALOG NUMBER**

SC-28-PF-ID/D

**CATALOG NUMBER****NUMBER OF LAMPS****TYPE OF LAMPS****OVERALL LENGTH****OPTIONS (SEE SPECIFICATIONS)**

CATALOG NUMBER	(NO) LAMPS	OVERALL NOMINAL FIXTURE LENGTH
SC-28-PF-ID/D-1T5-4'	(1) 4' T5	4'
SC-28-PF-ID/D-1T5-4'	(2) 4' T5	4'
SC-28-PF-ID/D-3T5-4'	(3) 4' T5	4'
SC-28-PF-ID/D-2T5-8'	(2) 4' T5	8'
SC-28-PF-ID/D-4T5-8'	(4) 4' T5	8'
SC-28-PF-ID/D-6T5-8'	(6) 4' T5	8'
SC-28-PF-ID/D-1T5HO-4'	(1) 4' T5HO	4'
SC-28-PF-ID/D-2T5HO-4'	(2) 4' T5HO	4'
SC-28-PF-ID/D-3T5HO-4'	(3) 4' T5HO	4'
SC-28-PF-ID/D-2T5HO-8'	(2) 4' T5HO	8'
SC-28-PF-ID/D-4T5HO-8'	(4) 4' T5HO	8'
SC-28-PF-ID/D-6T5HO-8'	(6) 4' T5HO	8'
SC-28-PF-ID/D-1T8-8'	(1) 4' T8	4'
SC-28-PF-ID/D-2T8-8'	(2) 4' T8	4'
SC-28-PF-ID/D-2T8-8'	(2) 4' T8	8'
SC-28-PF-ID/D-4T8-8'	(4) 4' T8	8'

**FIXTURE VIEW**



**SPECIFICATIONS**

**HOUSING:** Constructed of die-formed 18 gauge cold rolled steel. Perforations are 0.018 dia. (standard). 74 holes per square inch.

**LAMP SHIELDING:** Fabricated from perforated metal with acrylic overlay diffuser.

**BAFFLE:** Straight cross blade, 2" on-center spacing. Baked white enamel finish. Baffle is 2" long.

**BALLAST:** 120 Volt, 60 Hertz, Class P Electronic Standard.

**LABELING:** Fixtures are Underwriters Laboratories listed and bear the I.B.E.W., AFL-CIO label.

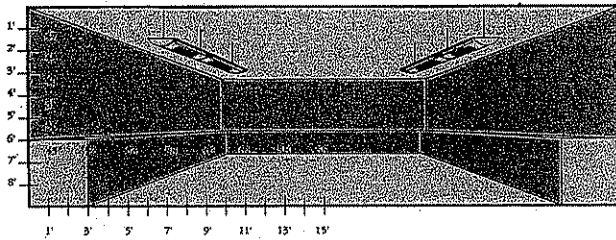
**OPTIONS:**

**BALLASTS:** 277 Volt, dimming ballasts available.

**MOUNTING:** Pendant - 1/2" dia., 18" long, standard. "P"=Pendent, "AC"=Aircraft cable. If different lengths are required, specify "P" or "AC" and required length. Example: "AC-24."

**CONTOURED END CAPS:** Contoured to fit end of run housing ends. Use suffix "CEC".

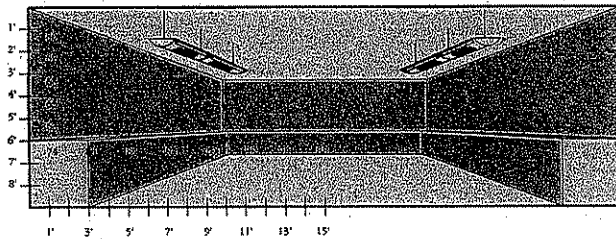
**FINISH:** Custom paint finishes are available. Please supply color chip.

**ROOM VIEW**

**FIXTURE:** SC-28-PF-232T8-8C

**ROOM:** 30'X20'X8'-6" WITH 80-50-20 REFLECTANCE

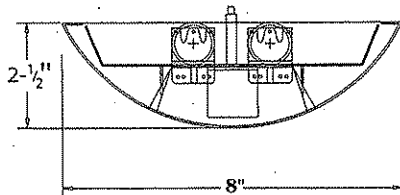
**NOTE:** VALUES ARE INITIAL ILLUMINANCE



**FIXTURE:** SC-28-PF-254T5-8C

**ROOM:** 30'X20'X8'-6" WITH 80-50-20 REFLECTANCE

**NOTE:** VALUES ARE INITIAL ILLUMINANCE

**TECHNICAL DRAWING**

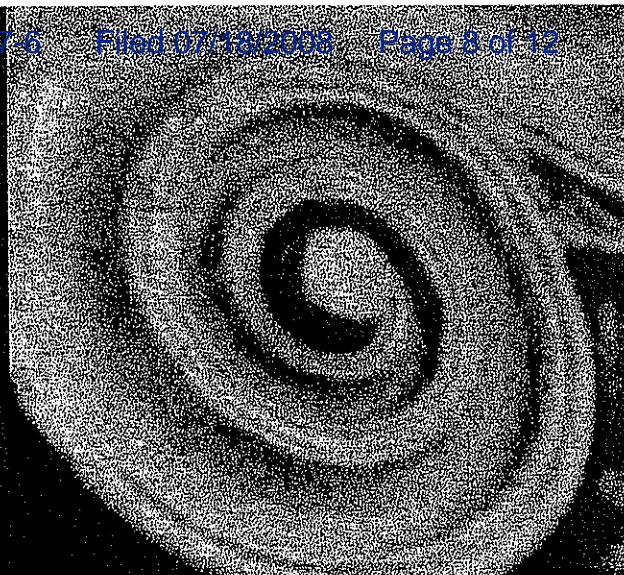
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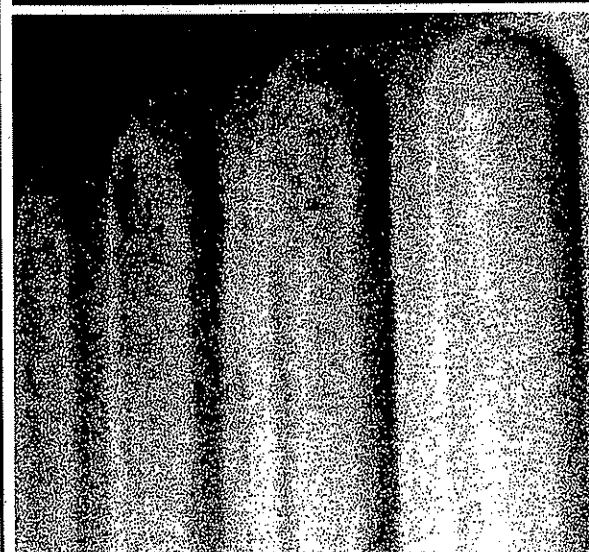
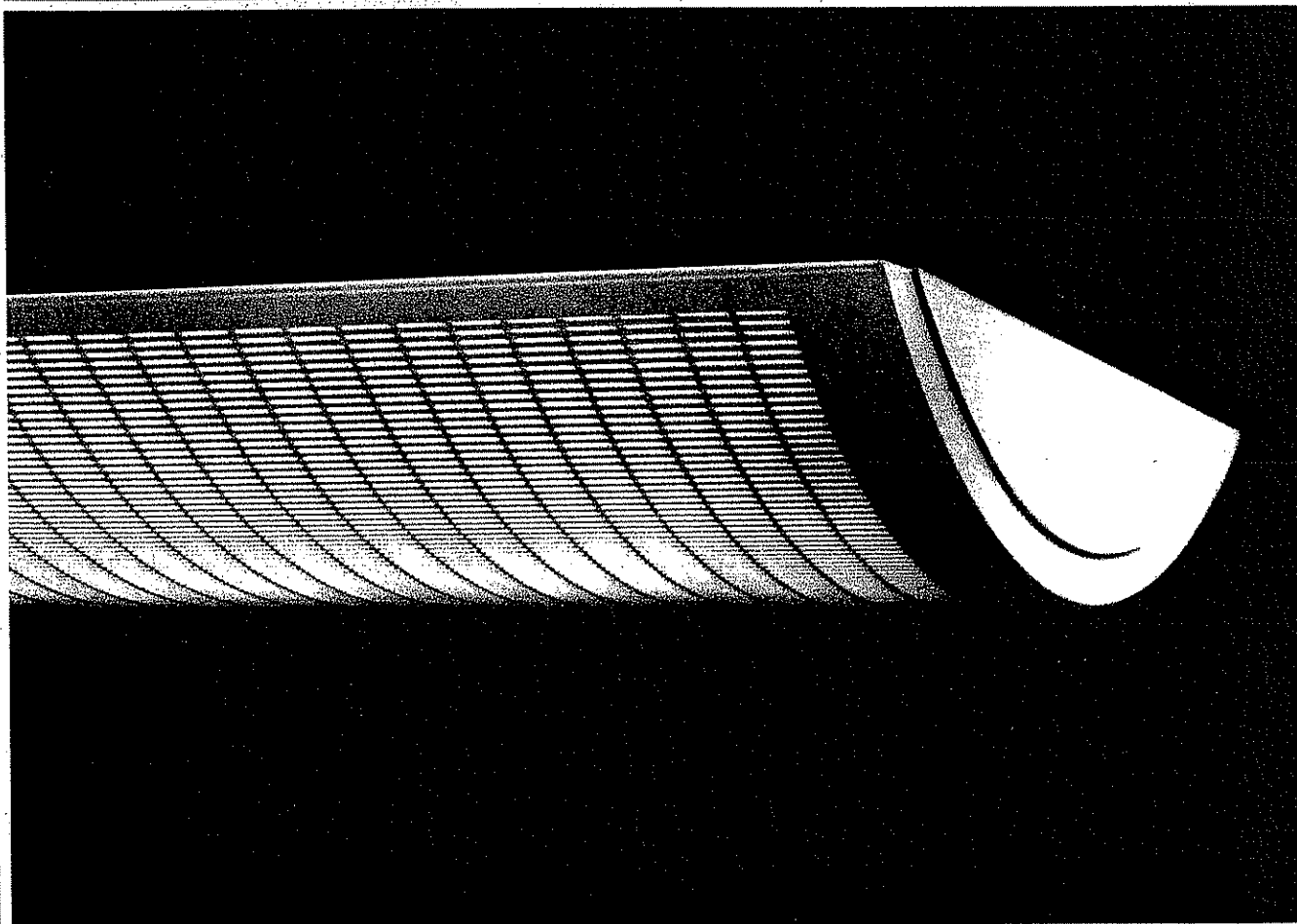
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# CPB/X

S E R I E S



#11



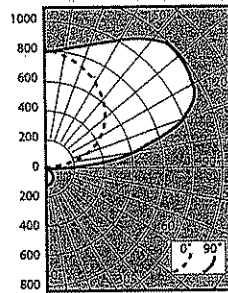
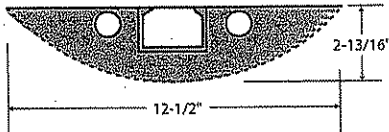
## *INDIRECT/DIRECT PENDANT*

*The CPB/X is designed with a fully perforated housing. Optional high-performance reflecting systems are available with a partially perforated housing. Affordability and photometric efficiency are features of the CPB/X series. Two and three T8-lamped fixtures are available in four and eight foot sections, perforated with holes or slots.*

*The CPB/X provides a wide spread indirect lighting distribution with a soft direct component. The series can be utilized in long continuous rows or individual applications.*

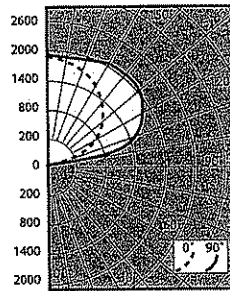
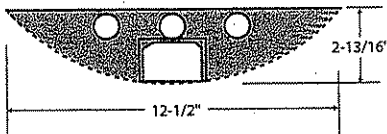


# **FIXTURE PERFORMANCE**

**CPB/X-ID/D-232-T8-PFM**

**COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pcf = 0.20**

pCC	.80				.70				.50				.30				.10				0
pW	.7	.5	.3	.1	.7	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	0
RCR																					
0	77	77	77	77	68	68	68	68	51	51	51	35	35	35	20	20	20	14	14	14	14
1	71	67	65	62	62	59	57	55	44	43	42	31	30	29	18	18	17	12	12	12	12
2	64	59	55	51	56	52	48	45	39	37	35	27	26	25	16	16	15	10	10	10	10
3	59	52	47	42	52	46	42	38	35	32	29	24	22	21	15	14	13	9	9	9	9
4	54	46	40	36	47	41	36	32	31	28	25	22	20	18	13	12	11	8	8	8	8
5	49	41	35	31	43	36	31	27	27	24	21	19	17	16	12	11	10	7	7	7	7
6	45	36	31	26	40	32	27	24	25	21	19	17	15	14	11	9	9	6	6	6	6
7	42	33	27	23	37	29	24	21	22	19	16	16	13	12	10	8	8	5	5	5	5
8	38	29	24	20	34	26	21	18	20	17	14	14	12	10	9	7	7	4	4	4	4
9	36	27	21	17	31	24	19	16	18	15	12	13	11	9	8	7	6	3	3	3	3
10	33	24	19	15	29	22	17	14	16	13	11	12	10	8	7	6	5	2	2	2	2

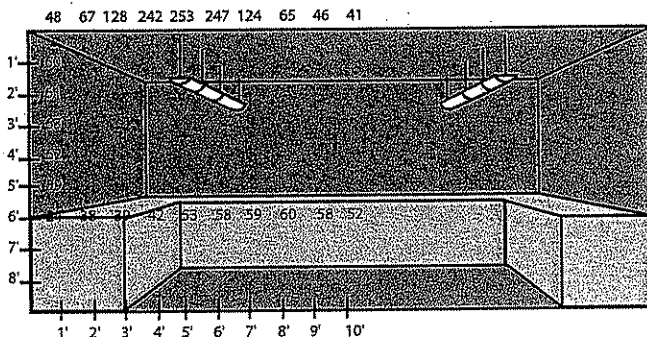
Number of Lamps: 2 Lumens per Lamp: 2850 Ballast Factor: 1.00

**CPB/X-ID/D-332-T8-PFM**

**COEFFICIENT OF UTILIZATION - Zonal Cavity Method: pcf = 0.20**

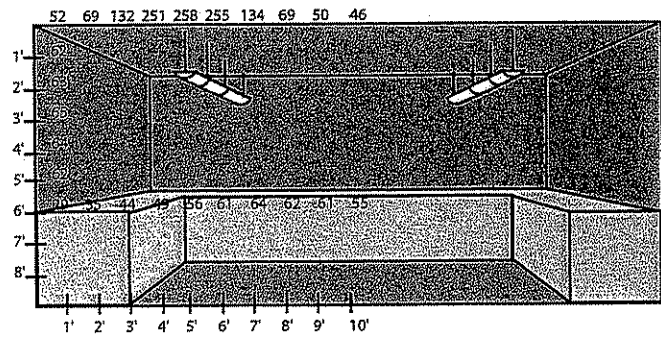
pCC	.80				.70				.50				.30				.10				0
pW	.7	.5	.3	.1	.7	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	0
RCR																					
0	80	80	80	80	69	69	69	69	49	49	49	31	31	31	14	14	14	6	6	6	6
1	73	69	66	64	63	60	58	56	43	41	40	27	26	25	12	12	11	5	5	5	5
2	66	61	56	52	57	53	49	46	37	35	33	23	22	21	11	10	10	4	4	4	4
3	60	53	48	43	52	46	42	38	33	30	28	21	19	18	9	9	8	3	3	3	3
4	55	47	40	36	47	41	36	32	29	26	23	18	17	15	8	8	7	2	2	2	2
5	50	42	35	31	43	36	31	27	26	23	20	16	14	13	7	7	6	1	1	1	1
6	46	37	31	26	40	32	27	23	23	20	17	15	13	11	7	6	5	0	0	0	0
7	43	30	24	23	37	29	24	20	21	17	15	13	11	10	6	5	5	0	0	0	0
8	39	30	24	20	34	26	21	18	19	15	13	12	10	9	6	5	4	0	0	0	0
9	36	27	21	17	31	24	19	15	17	14	11	11	9	7	5	4	4	0	0	0	0
10	34	25	19	15	29	21	17	14	16	12	10	10	8	7	5	4	3	0	0	0	0

Number of Lamps: 3 Lumens per Lamp: 2850 Ballast Factor: 1.00

## **ROOM VIEW**

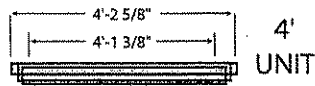
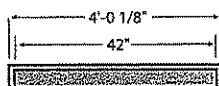
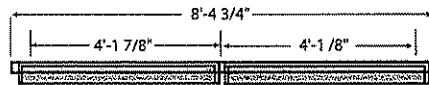
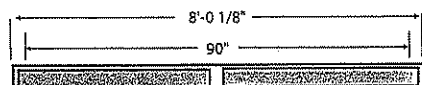
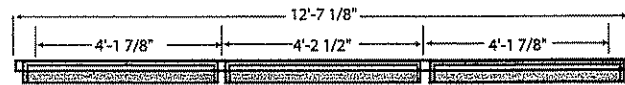
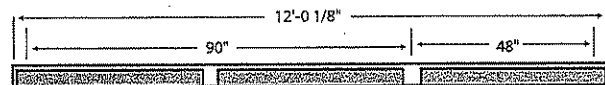


**FIXTURE:** CPB/X-ID/D-232/OCT-PFM, 10' ON CENTER, 1' - 3' STEM LENGTH  
**ROOM:** 32'X20'X8'-6" WITH 80-50-20 REFLECTANCES..  
**NOTE:** VALUES ARE INITIAL ILLUMINANCE.



**FIXTURE:** CPB/X-ID/D-332/OCT-PFM, 10' ON CENTER, 1' - 3' STEM LENGTH  
**ROOM:** 32'X20'X8'-6" WITH 80-50-20 REFLECTANCES..  
**NOTE:** VALUES ARE INITIAL ILLUMINANCE.

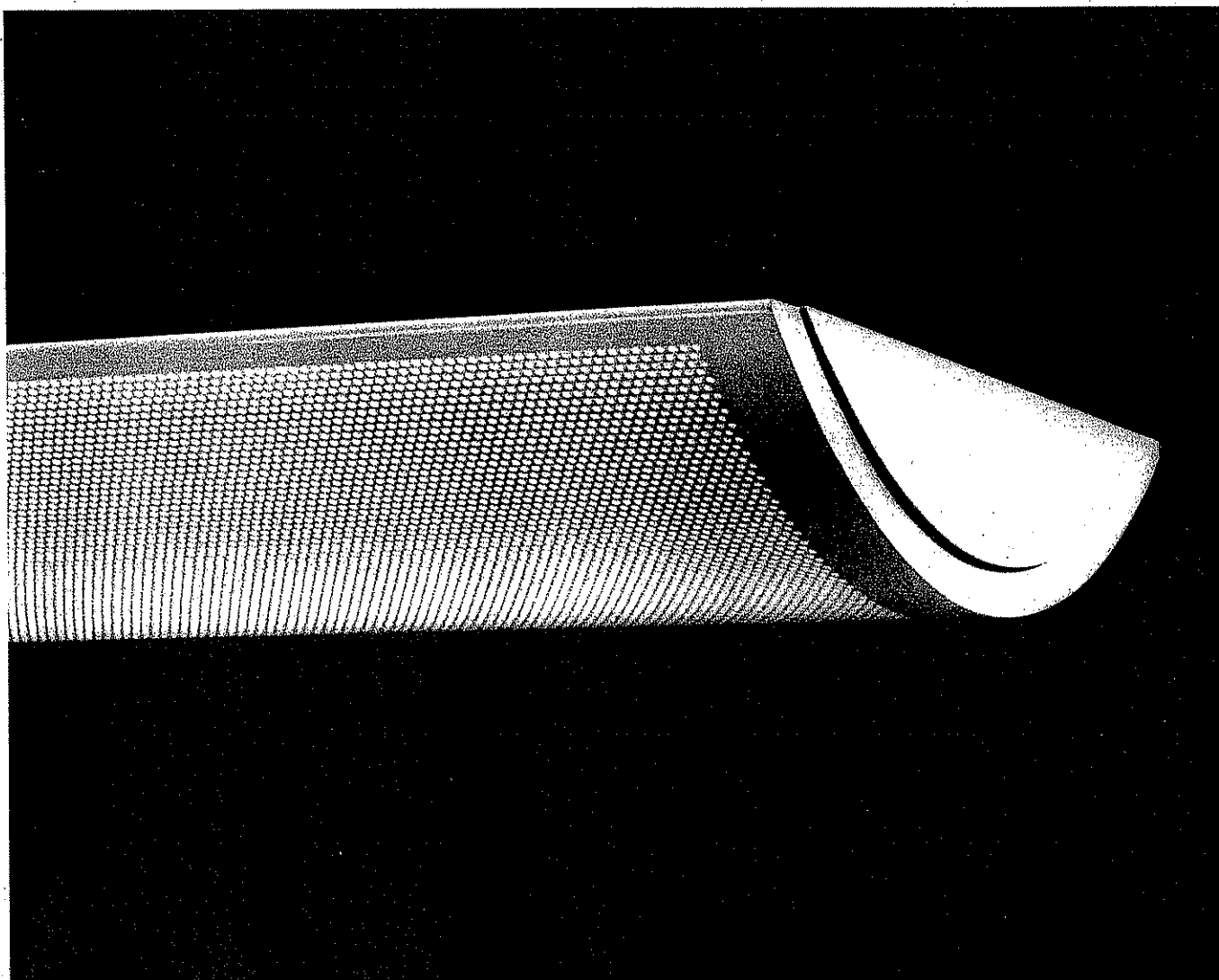
## MOUNTING

4'  
UNIT8'  
UNIT12'  
UNIT

2 1/4"

2 1/4"

## TEXTURE VIEW





**SPECIFICATIONS**

**HOUSING:** Constructed of die formed 18 gauge steel. Perforations are 0.081" dia. holes (74 holes per inch). Slotted perforations available (see photograph). Consult National Lighting Company for other styles and perforation configurations.

**REFLECTOR:** Die-formed steel with high reflectance white enamel finish is standard. Optional high-performance specular reflector is available. Specify FPM (available in partially perforated housing only).

**LAMPS:** T8, by others.

**FINISH:** Baked white enamel.

**LAMP SHIELDING:** Fabricated from perforated metal with white overlay acrylic diffuser.

**LABELING:** Fixtures are Underwriters Laboratories listed and bear the I.B.E.W., AFL-CIO label.

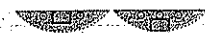
**OPTIONS:**

**BALLASTS:** 277 Volt and dimming ballasts available. Please specify.

**MOUNTING:**

**PENDANT:** 1/2" Diameter, 18" long, standard. If different lengths are required, please specify. Example P-24.

**AIRCRAFT CABLE:** Available. Specify "AC" and required length. Example AC-24"

**ORDERING KEY****CATALOG NUMBER**

CPB/X

**LIGHTING****DISTRIBUTION**

ID/D - Indirect/direct

**NUMBER OF LAMPS**

2 - 2 Lamps

3 - 3 Lamps

**LAMP WATTAGE**

25/OCT - 25 Watt (3FT) Octon

32/OCT - 32 Watt (4FT) Octon

40/OCT - 40 Watt (5FT) Octon

50T/OCT - Tandem 25 Watt (6FT) Octon

64T/OCT - Tandem 32 Watt (8FT) Octon

**LAMP SHIELDING**

PFM - 0.081" Dia. (74 Holes per square inch) with white overlay

SL-PFM - Slotted perforations

(see photography). Consult National Lighting for other variations

**REFLECTING SYSTEM**

PPM - Partially perforated housing

high-performance reflecting system

FPM - Fully perforated housing standard reflecting system

**MOUNTING**

P - Pendant (Specify length)

AC - Aircraft cable (Specify length)

**VOLTAGE - 120V OR 277V**

120V - 120 Volt

277 - 277Volt

**OVERALL LENGTH**

Specify overall fixture row length

**FINISH**

Custom paint finishes are available. Please supply color chip.



National Lighting Company, Inc. 522 Cortlandt Street, Belleville, New Jersey 07109

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www.natlgtg.com

**DECLARATION OF SERVICE**

I, the undersigned, declare:

1. I am over 18 years of age and not a party to this action. My business address is 401 West "A" Street, Suite 2330, San Diego, California 92101 which is located in the county where the service described below took place.

2. On June 6, 2008, I served the following document:

**FIRST AMENDED COMPLAINT**

( ) BY MAIL. I am familiar with this firm's practice of collection and processing correspondence for mailing with the United States Postal Service, and that the correspondence shall be deposited with the United States Postal Service this same day in the ordinary course of business pursuant to Code of Civil Procedure §1013a.

( ) BY PERSONAL SERVICE. I caused to be hand-delivered said document(s) to the addressee pursuant to Code of Civil Procedure §1011.

(x) BY OVERNIGHT DELIVERY. I deposited said document(s) in a box or other facility regularly maintained by the express service carrier providing overnight delivery pursuant to Code of Civil Procedure §1013c.

( ) BY FACSIMILE. In addition to service by mail as set forth above, a copy of said document(s) were also delivered by facsimile transmission to the addressee pursuant to Code of Civil Procedure §1013e.

addressed to the parties listed on the attached Service List.

I certify and declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed on June 6, 2008, at San Diego, California.

/s/ Juliana Konze  
JULIANA KONZE